



## ADAPTATION FUND

AFB/PPRC.23/11  
24 September, 2018

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Adaptation Fund Board  
Project and Programme Review Committee  
Twenty-Third Meeting  
Bonn, Germany, 9-10 October, 2018

Agenda Item 6 e)

### **PROPOSAL FOR INDONESIA (2)**

## Background

1. The Operational Policies and Guidelines (OPG) for Parties to Access Resources from the Adaptation Fund (the Fund), adopted by the Adaptation Fund Board (the Board), state in paragraph 45 that regular adaptation project and programme proposals, i.e. those that request funding exceeding US\$ 1 million, would undergo either a one-step, or a two-step approval process. In case of the one-step process, the proponent would directly submit a fully-developed project proposal. In the two-step process, the proponent would first submit a brief project concept, which would be reviewed by the Project and Programme Review Committee (PPRC) and would have to receive the endorsement of the Board. In the second step, the fully-developed project/programme document would be reviewed by the PPRC, and would ultimately require the Board's approval.

2. The Templates approved by the Board (Annex 5 of the OPG, as amended in March 2016) do not include a separate template for project and programme concepts but provide that these are to be submitted using the project and programme proposal template. The section on Adaptation Fund Project Review Criteria states:

*For regular projects using the two-step approval process, only the first four criteria will be applied when reviewing the 1st step for regular project concept. In addition, the information provided in the 1st step approval process with respect to the review criteria for the regular project concept could be less detailed than the information in the request for approval template submitted at the 2nd step approval process. Furthermore, a final project document is required for regular projects for the 2nd step approval, in addition to the approval template.*

3. The first four criteria mentioned above are:

- (i) Country Eligibility,
- (ii) Project Eligibility,
- (iii) Resource Availability, and
- (iv) Eligibility of NIE/MIE.

4. The fifth criterion, applied when reviewing a fully-developed project document, is:  
(v) Implementation Arrangements.

5. It is worth noting that at the twenty-second Board meeting, the Environmental and Social Policy (ESP) of the Fund was approved and at the twenty-seventh Board meeting, the Gender Policy (GP) of the Fund was also approved. Consequently, compliance with both the ESP and the GP has been included in the review criteria both for concept documents and fully-developed project documents. The proposal template was revised as well, to include sections requesting demonstration of compliance of the project/programme with the ESP and the GP.

6. At its seventeenth meeting, the Board decided (Decision B.17/7) to approve "Instructions for preparing a request for project or programme funding from the Adaptation Fund", contained in the Annex to document AFB/PPRC.8/4, which further outlines applicable review criteria for both concepts and fully-developed proposals. The latest version of this document was launched in conjunction with the revision of the Operational Policies and Guidelines in November 2013.

7. Based on the Board Decision B.9/2, the first call for project and programme proposals was issued and an invitation letter to eligible Parties to submit project and programme proposals to the Fund was sent out on April 8, 2010.

8. According to the Board Decision B.12/10, a project or programme proposal needs to be received by the secretariat no less than nine weeks before a Board meeting, in order to be considered by the Board in that meeting.

9. The following fully-developed programme document titled “Building Coastal City Resilience to Climate Change Impacts and Natural Disasters in Pekalongan City, Central Java Province” was submitted for Indonesia by the Partnership for Governance Reform in Indonesia (Kemitraan), which is the National Implementing Entity of the Adaptation Fund.

10. This is the second submission of the proposal using the two-step submission process. It was first submitted as a project concept for consideration by the Board at its thirtieth meeting and the Board decided:

*(a) To endorse the project concept, as supplemented by the clarification response provided by the Partnership for Governance Reform in Indonesia (Kemitraan) to the request made by the technical review;*

*(b) To request the secretariat to transmit to Kemitraan the observations in the review sheet annexed to the notification of the Board’s decision, as well as the following issues:*

*i. The sustainability of project outcomes needs to be better articulated, by embedding the planned activities in the village- and city-level governance structures (government, private sector and civil society organizations) so they can be scaled up and/or maintained (coastal embankment) with appropriate financing;*

*ii. The relationship between actions at the different levels needs to be further explained, given the importance of ensuring coordination and coherence of multilevel action;*

*iii. Project compliance with the Adaptation Fund’s environmental and social policy needs to be better explained;*

*(c) To approve the project formulation grant of US\$ 30,000;*

*(d) To request Kemitraan to transmit the observations under subparagraph (b) to the Government of Indonesia; and*

- (e) To encourage the Government of Indonesia to submit through Kemitraan a fully developed project proposal that would address the observations in subparagraph (b) above.*

**(Decision B.30/12)**

11. The current submission was received by the secretariat in time to be considered in the thirty-second Board meeting. The secretariat carried out a technical review of the project proposal, assigned it the diary number IDN/NIE/Multi/2017/1, and completed a review sheet.
12. In accordance with a request to the secretariat made by the Board in its 10th meeting, the secretariat shared this review sheet with Kemitraan, and offered it the opportunity of providing responses before the review sheet was sent to the PPRC.
13. The secretariat is submitting to the PPRC the summary and, pursuant to decision B.17/15, the final technical review of the project, both prepared by the secretariat, along with the final submission of the proposal in the following section. In accordance with decision B.25.15, the proposal is submitted with changes between the initial submission and the revised version highlighted.

## Project Summary

### Indonesia – Building Coastal City Resilience to Climate Change Impacts and Natural Disasters in Pekalongan City, Central Java Province

Implementing Entity: Partnership for Governance Reform in Indonesia (Kemitraan)

Project/Programme Execution Cost: 353,217 USD

Total Project/Programme Cost: 3,718,077 USD

Implementing Fee: 55,771 USD

Financing Requested: 4,127,065 USD

### Programme Background and Context

With 18,000 islands and a coastline that stretches over 18,000 km and that hosts almost 60% of the country population, Indonesia is vulnerable to the impacts of climate change. Among such impacts, it is expected that the average surface temperature will increase by 0.8°C-1°C by 2050, that the sea surface temperature will increase by 1-1.2°C by 2050, that rainfall will increase in wet season and decrease in transition months, and that the sea level rise will reach 35-40 cm in 2050 relative to the value of 2000. Because of its rapid urban development, high population density and role in rice production, the North Coast of Java, where Pekalongan city is located, is seen as highly vulnerable to climate change impacts.

The objective of the proposed project is to build coastal resilience to climate change impacts and natural disasters with a particular focus on pro-poor adaptation actions that involve and benefit the most vulnerable communities of the city. It plans to reach this objective through a combination of hard and soft adaptation measures, distilled along different governance level (national, provincial, city and village level), reflected respectively in each of the four program components. Adaptation interventions remains to be precisely determined, but information provided include developing alternative livelihoods (such as shrimp and fish production), constructing coastal embankments structures, developing eco-tourism, and building capacity of different stakeholders to integrated climate change adaptation into various planning processes. The project proposal is structured around four components.

Component 1: Village level - Enhancing coastal community capacity in developing and implementing Climate change adaptation actions and village information system including developing livelihood strategies, by also taking into account relevant local wisdom (USD 948,173)

This component will undertake various scoping and feasibility studies in order to define activities that the proposed program could implement following which activities will be implemented in target villages. Examples of activities include mangrove restoration, support in rice and fish production, promotion of rainwater harvesting techniques, ecotourism, among others.

Component 2: City Level - Enhancing local government and other city stakeholders' capacity in developing local climate change adaptation action plan (RAD API) and implement Climate smart (USD 2,615,545)

Under this component, the program would perform scoping and feasibility studies for Pekalongan city in order to define and assess the interventions that could be implemented in that city. The program would notably build geo-tube embankments in two villages, for a total length of 1.5 km. It would also build individual and communal sanitation facilities in some villages. Other activities would include the construction of shrimp and fish ponds, mangrove restoration, promotion of ecotourism, among others. The program would also establish a city-wide knowledge management platform.

Component 3: Province Level - Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan, which in turn could foster better climate-related policy on climate financing and bottom-up planning (USD 31,074)

In this component, trainings would be provided to enhance the capacity of the provincial government to integrate climate change adaptation into local climate change adaptation action plans.

Component 4: National Level - Strengthening vertical coordination and collaboration between national and local government in climate adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government (USD 123,285)

Under this component, the program would promote the use of a free web-based tool that calculates climate risk indexes that could be used by local governments to assess their risk indexes in a user-friendly way. The program would also provide inputs to the National Action Plan on Climate Change Adaptation.



ADAPTATION FUND

## ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: REGULAR-SIZED PROJECT

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Country/Region: **Indonesia**  
 Project Title: **Building Coastal City Resilience to Climate Change Impacts and Natural Disasters in Pekalongan City, Central Java Province**  
 Thematic Focal Area: **Multi-sectors**  
 Implementing Entity: **Partnership for Governance Reform in Indonesia (Kemitraan)**  
 AF Project ID: **IDN/NIE/Multi/2017/1**  
 IE Project ID:   
 Reviewer and contact person: **Hugo Remaury**  
 IE Contact Person: **Ms. Dewi Rizki**

Requested Financing from Adaptation Fund (US Dollars): **4,127,065**  
 Co-reviewer(s): **Saliha Dobardzic**

Review Criteria	Questions	Comments on August 15, 2018	Comments on September 6, 2018
Country Eligibility	1. Is the country party to the Kyoto Protocol?	Yes.	
	2. Is the country a developing country particularly vulnerable to the adverse effects of climate change?	Yes.	
Project Eligibility	1. Has the designated	Yes.	

	government authority for the Adaptation Fund endorsed the project/programme?		
	2. Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?	<p>Likely. However, the proposal does not provide additional technical information compared to the endorsed concept document. The level of information currently provided does not reach the one expected at fully developed proposal stage. It does not allow a comprehensive understanding and analysis of the adaptation interventions the program would implement, hindering a comprehensive assessment of the proposal against criteria required for fully developed proposals. Last but not least, the specific participatory approach involving unidentified sub-project (USPs) is incompatible with the Environmental and Social Policy (ESP) of the Fund.</p> <p><b>CR 1:</b> The program plans to postpone pivotal preliminary works such as scoping and feasibility studies of concrete adaptation measures, and assessment of financial schemes through which the program would implement some activities, to the program implementation stage. This specific approach involving USPs is incompatible with the ESP. Please</p>	<p><b>CR1:</b> Not addressed. Please consider undertaking the various planned preliminary works (such as scoping and feasibility studies of concrete adaptation measures, including coastal embankments, and assessment of financial schemes that would ensure the funding and sustainability of some activities) before submission of the fully developed proposal to allow the final identification of the program interventions. This is of</p>



		<p>reformulate project activities in a way that compliance with the ESP is possible.</p> <p><b>CR 2:</b> Please provide a higher level of technical details with respect to the interventions that the program would implement, especially the ones generating concrete results on the ground. The description should include information on location where each activity will take place and the scope of these activities. This is of utmost importance given that the program would implement hard intervention measures such as aquaculture development, construction of costal embankments, construction of innovative latrine systems, reforestation of mangroves, etc. Such activities have to be identified to a point where Environmental and Social Policy (ESP) related risks can be effectively and comprehensively identified. The proposal should also provide more information about the soft adaptation measures that remain too vague, despite the consultative process seems to have generated some suggestions from different stakeholders.</p> <p><b>CR 3:</b> While describing in further detail the activities (see CR above), please demonstrate their appropriateness in</p>	<p>utmost importance, since the proposal acknowledges that such studies will ensure <i>“that the proposed actions will not leads to mal-adaptation and further jeopardizing Pekalongan City sustainability”</i>.</p> <p><b>CR 2:</b> Partly addressed. Please provide sufficient technical information/specifications about the proposed interventions to a point where Environmental and Social Policy (ESP) related risks can be effectively and comprehensively identified.</p> <p><b>CR 3:</b> Not addressed. Please demonstrate the appropriateness of the proposed interventions in responding to the threats posed by climate scenarios.</p>
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		<p>responding to the threats posed by climate scenarios that were described in part 1 of the proposal.</p> <p><b>CR 4:</b> Please make sure that the threats the activities would tackle are all identified in part 1 of the proposal. For instance, there is currently no information related to water-borne disease that the project aims to address through the constructions of latrines.</p> <p><b>CR 5:</b> A few additional information about the program activities are spread across different sections of the proposal. For instance, the results framework mentions the construction of 1 km of coastal embankments, 40 aquaculture (ponds?) developed, 190 latrine, two communal latrines, 20 ha of reforested mangrove. Please ensure that all relevant information about the program activities are described in part II A of the proposal.</p> <p><b>CR 6:</b> Please describe in part I of the proposal if there are any non-climatic barriers (e.g. uncontrolled urbanization and/or costal development, mangrove deforestation etc.) exacerbating impacts due to climate change in the target area. If there are any, please describe how they have been taken into account when</p>	<p><b>CR 4:</b> Partly addressed. Please make sure that the threats the activities would tackle are all identified in part 1 of the proposal.</p> <p><b>CR 5:</b> Partly addressed. Please ensure consistency of the information provided throughout the proposal. For instance, the program results framework includes more technical information than the description of the activities part II A. All activities listed in the results framework should be described in detailed in the proposal.</p> <p><b>CR 6:</b> Addressed, as per the information provided on p.16.</p> <p><b>CR 7:</b> Addressed, as per the information provided in p. 30 and 46.</p>
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		<p>designing the program.</p> <p><b>CR 7:</b> It is currently unclear how the activities (1)(i) and (1)(ii) described on p.24 are linked. Please clarify the link, if any, between these activities.</p> <p><b>CR 8:</b> Please explain how the infrastructures the program plans to build (e.g. coastal embankments, fishponds, latrines, among others) will be made themselves resilient to the impacts of climate change.</p> <p><b>CR 9:</b> Although the program is based on a multilevel approach to climate change threats, there are currently very few evidences and description of the “<i>vertical approach</i>” that the program would undertake under component 4. Moreover, it seems that villages would not be included in that dialogue process. Please explain precisely what entails the vertical approach mentioned in component 4, and clarify whether target villages will be part of this process.</p> <p><b>CR 10:</b> The program plans the reactivation of a “<i>city climate working group</i>” under output 2.1.1, without explaining why this group has not been active in the past years. In addition, the</p>	<p><b>CR 8:</b> Not addressed. Please explain how the infrastructures the program plans to build (e.g. coastal embankments, fishponds, latrines, among others) will be made themselves resilient to the impacts of climate change.</p> <p><b>CR 9:</b> Not addressed. Please explain precisely what entails the “<i>vertical approach</i>” mentioned in component 4 and clarify why the villages will not take part in this component.</p> <p><b>CR 10:</b> Mostly addressed. Please clarify whether the focus of the “<i>city climate working group</i>” will be on adaptation, mitigation or both.</p>
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		<p>results framework provided as part of the proposal points that this is focused on mitigation issues. Please clarify the reasons why this group has not been active, describe lessons learned from its past activities, demonstrate its relevance, and explain how the program will take such lessons into account.</p> <p><b>CR 11:</b> Please amend the “<i>regular-sized project concept</i>” title into “<i>regular project/programme</i>” on page 2 of the proposal.</p> <p><b>CR 12:</b> Please clarify and delete if appropriate the sentence on p.23 “<i>More detailed explanation on activities will be developed during program preparation stage</i>”.</p> <p><b>CR 13:</b> Please update the project/programme components and financing tables with the break-down of costs at output-level. Please correct the component 2 output numbers, that currently read as 1.1.1, 1.1.2, 1.1.3 instead of CR2.1.1., 2.1.2., 2.1.3.</p>	<p><b>CR 11:</b> Not addressed. Please amend the “<i>regular-sized project concept</i>” title into “<i>regular project/programme</i>” on page 2 of the proposal</p> <p><b>CR 12:</b> Not addressed. As requested in CR 1, please identify final program interventions before submission of the fully developed proposal.</p> <p><b>CR 13:</b> Party addressed. Please update the project/programme components and financing tables with the break-down of costs at output-level (i.e. budget for outputs 1.1.1, 1.1.2, 2.1.1 etc.).</p>
	3. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable	Partly. However, no additional information has been provided compared to the concept proposal, and further clarifications are needed at this stage with respect to the expected benefits	

	<p>communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>from the program.</p> <p><b>CR 14:</b> Even though the proposal provides an overview of the target area population, it does not include information on the program beneficiaries (i.e. people who would directly benefit from the interventions). Please include information on the expected beneficiaries of the program.</p> <p><b>CR 15:</b> There are contradictory information regarding the selection of target villages. On p.12, it is said that <i>“Tirto village will not be included considering the fact that flooding inundation occurring in the said village are mostly due to river flooding, instead of coastal flooding”</i> although p.67 mentions <i>“tidal flood disaster”</i> in the same village, p.61 <i>“the worst affected village”</i>, p.9 mentions IDR 188 billion of loss and damage <i>“due to coastal flooding”</i>, and that p.72 suggests actions to be implemented in that same village. Please clarify what are the 8 villages that will be targeted and describe the basis on which they have been selected. While doing so, explain if all villages consulted as part of the consultative process have been selected as beneficiaries of the program interventions.</p>	<p><b>CR 14:</b> Not addressed. Please include information on the expected beneficiaries of the program.</p> <p><b>CR 15:</b> Partly addressed. Please describe the basis on which the 8 target villages have been selected.</p> <p><b>CR 16:</b> Not addressed. Please describe how the project will ensure an equitable distribution of benefits to vulnerable communities, households,</p>
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		<p><b>CR 16:</b> Please describe how the project will ensure an equitable distribution of benefits to vulnerable communities, households, and individuals.</p> <p><b>CR 17:</b> Please clarify whether minority groups and indigenous communities have been identified in the target area. Should it be the case, please explain the particular benefits provided by the program to those groups.</p> <p><b>CR 18:</b> Please quantify, whenever possible, the expected benefits of the program, taking into account the interventions that may be further characterized (see CR in section 2 above). Existing literature, studies, analysis, and similar projects may be useful sources of information. This appears especially crucial for livelihoods activities such as honey production, eco-tourism aquaculture, among others.</p> <p><b>CR 19:</b> The proposal should demonstrate its compliance with the Gender Policy. It may be demonstrated through inter alia information resulting from an initial gender analysis, and/or assessment at the earliest stage of project/programme preparation to</p>	<p>and individuals.</p> <p><b>CR 17:</b> Partly addressed. Please clarify whether minority groups have been identified in the target area. Should it be the case, please explain the particular benefits provided by the program to such groups</p> <p><b>CR 18:</b> Not addressed. Please quantify, whenever possible, the expected benefits of the program, taking into account the interventions that may be further characterized (see CR in section 2 above). Existing literature, studies, analysis, and similar projects may be useful sources of information. This appears especially crucial for livelihoods activities such as honey production, eco-tourism aquaculture, among others.</p> <p><b>CR 19:</b> Not addressed. In order to comply with the Gender Policy, please provide an initial gender analysis, and/or assessment at the earliest stage of project/programme preparation to determine the different needs, capabilities, roles and knowledge resources of women and men, and/or identify how changing gender dynamics might drive lasting</p>
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		determine the different needs, capabilities, roles and knowledge resources of women and men, and/or identify how changing gender dynamics might drive lasting change. This could establish a baseline against which results of gender responsive approaches and actions can be measured. Also, according to the Adaptation Fund Gender Policy, the proposal should describe how the project would contribute to improving gender equality, the empowerment of women and the project interventions' suitability to meet the adaptation needs of targeted women and men.	change.
	4. Is the project / programme cost effective?	<p>Likely. However, no additional information has been provided compared to the concept proposal, and there is a need to further demonstrate the proposed program cost-effectiveness, as outlined in the CRs below.</p> <p><b>CR 20:</b> The proposal should further demonstrate the cost-effectiveness of the proposal, for both hard and soft adaptation measures. A clear description of alternative options to the proposed measures should be provided as a basis to demonstrate the program cost-effectiveness. The proposal should compare the interventions selected to</p>	<p><b>CR20:</b> Not addressed. Please provide a clear description of alternative options to the proposed measures as a basis to demonstrate the program cost-effectiveness. The proposal should compare the interventions selected to other possible interventions (e.g. promotion of shrimp production vs. promotion of fish production, or honey production vs.</p>

		<p>other possible interventions (e.g. promotion of shrimp production vs. promotion of fish production, or honey production vs. other agricultural production etc.) that could have taken place to help adapt and build resilience in the same sector, geographic region, and/or community. Provide quantitative estimates where feasible and useful.</p> <p><b>CR 21:</b> From the information provided, it seems that both components 1 and 2 would include the same type of interventions, namely aquaculture development activities and introduction of innovative latrines. Please demonstrate that such arrangement would be cost-effective.</p> <p><b>CR 22:</b> Following-up on a previous CR (see section 2 above), please clarify how the program will ensure the timely implementation and completion of the program over the three-year period, given the fact that multiple key studies will only be undertaken during program implementation.</p>	<p>other agricultural production etc.) that could have taken place to help adapt and build resilience in the same sector, geographic region, and/or community.</p> <p><b>CR 21:</b> Addressed, as per the information provided on p.55.</p> <p><b>CR 22:</b> Addressed, as per the information provided on p.58.</p>
	5. Is the project / programme consistent with national or sub-national sustainable development strategies,	Likely. However, compliance of the program with the relevant plans and strategies has to be explained in detail at fully developed proposal stage. No additional information has been provided	



	national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?	<p>compared to the concept proposal.</p> <p><b>CR 23:</b> Please demonstrate the compliance of the proposed program with the relevant plans and strategies that have been identified.</p>	<p><b>CR 23:</b> Partly addressed. Please further demonstrate the compliance of the proposed program with the relevant plans and strategies that have been identified.</p>
	6. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?	<p>Yet to be demonstrated. The proposed should demonstrate that it would meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy (ESP) of the Fund. No additional information has been provided compared to the concept proposal.</p> <p><b>CR 24:</b> As pointed out during the review of the project concept, <i>“more information on the full application of laws and standards will be required at the fully developed stage”</i>. Please explain in detail that the program and its associated interventions, that are yet to be characterized (see previous CR in section 2 above), comply with the relevant national technical standards, in compliance with the ESP.</p>	<p><b>CR 24:</b> Not addressed. Please explain in detail how the program and its associated interventions would meet the relevant national technical standards, in compliance with the ESP. This should address environmental assessments (including but not limited to activities that have been already defined such as construction of coastal embankments, latrines, aquaculture), building codes, and land use or tenure regulations, as required by national legislation, among others. If one specific activity of the program requires compliance with technical standards, the legal source</p>

			of the requirement, the steps taken to comply with it and the nature of the authorization/clearance granted for the project to be implemented will have to be explained.
	7. Is there duplication of project / programme with other funding sources?	<p>Yet to be demonstrated. It is unclear whether future or on-going projects or programmes are taking place in the target area. In addition, no additional information has been provided compared to the concept proposal, and thus the potential overlap/complementarity with the identified project needs to be further demonstrated.</p> <p><b>CR 25:</b> Please clarify whether on-going or upcoming projects are taking place in the target area.</p> <p><b>CR 26:</b> Should the village of Bandengan be selected for activities, please explain how the activities will not overlap or will build complementarity with the construction of the dam mentioned on p.62.</p> <p><b>CR 27:</b> p. 63 suggests that the proposed construction of coastal embankments would take place on embankments initiated by the national government. Please confirm whether or not this will be the case, and update the proposal</p>	<p><b>CR 25:</b> Addressed, as per the statement on p.67.</p> <p><b>CR 26:</b> Partly addressed. Please explain how the program will ensure a smooth coordination between the implementation of its interventions and the on-going construction of the dam.</p> <p><b>CR 27:</b> Addressed, as per the information provided on p.67.</p>

		accordingly.	
	8. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	<p>Yes. However, the proposal does not provide sufficient details about the Knowledge Management component of the proposed program. Moreover, various aspects related to Knowledge Management need to be clarified.</p> <p><b>CR 28:</b> Please ensure that appropriate budget is allocated to KM activities. Please complete the “USD xxxxx” field on p.52 accordingly.</p> <p><b>CR 29:</b> Key factors of success of a project KM strategy include adaptive management and the development of learning objectives and indicators, which are described in the proposal. Please explain the proposed project strategy in terms of adaptive management and describe how the project plans to develop learning objectives and indicators.</p> <p><b>CR 30:</b> Please clarify how the knowledge management strategy outcomes will be sustained over time (i.e. at the end of the program).</p> <p><b>CR 31:</b> The proposal describes the existence of KM platforms already in</p>	<p><b>CR 28:</b> Addressed, as per the information provided on p.68.</p> <p><b>CR 29:</b> Addressed, as per the information provided on p.70.</p> <p><b>CR 30:</b> Addressed, as per the information provided on p.70.</p> <p><b>CR 31:</b> Addressed, as per the information provided on p.71.</p>

		place (e.g. PIM and ICA). Please explain how the proposed program will not overlap nor duplicate efforts with such platforms and how the proposed platform to be developed by the program will ensure complementarity with the existing ones.	
	9. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	<p>Yes. However, major questions remain regarding the outcomes of such consultations, and the extent to which they were included in the program design.</p> <p><b>CR 32:</b> The list of stakeholders provided contradicts information in the consultation section. For instance, a list of participant is dated 20 July 2018, although no consultation appears to have taken place on that date from the information provided in the consultation section of the proposal. In addition, lists of participants and meeting outcomes seem to be missing for various meetings, notably the village-level meetings that took place (only 3 communities have apparently been consulted, for a target of 8 villages). Last but not least, the second list of participants has no date on it. Please provide evidence of the consultation of target villages, and the corresponding list of all stakeholders consulted with dates and gender easily</p>	<p><b>CR 32:</b> Not addressed. Please provide evidence of a comprehensive, gender-responsive consultative process involving all direct and indirect stakeholders of the proposed program.</p> <p><b>CR 33:</b> Not addressed. Please</p>

		<p>identifiable.</p> <p><b>CR 33:</b> There are currently very few evidence that the outcomes of the consultations have informed the design of the proposal. Please demonstrate that the outcomes of the consultative process were taken into account in the design of the proposed interventions.</p> <p><b>CR 34:</b> Should minority groups or/and indigenous people be identified in the project area (see CR above in section 2), please demonstrate that their views and concerns were taken into account in the design of the proposal.</p> <p><b>CR 35:</b> Please confirm whether tourism sectors representatives have been consulted about the program proposed interventions, notably for the ones related to eco-tourism and the construction of embankments structures.</p> <p><b>CR 36:</b> Please clarify whether all target villages have been consulted in a gender-sensitive equal way, and demonstrate that their views and concerns are reflected in the program design.</p> <p><b>CR 37:</b> Please clarify how the program</p>	<p>demonstrate that the outcomes of the consultative process were taken into account in the design of the proposed interventions.</p> <p><b>CR 34:</b> Partly addressed. Should minority groups be identified in the project area (see CR 17 above), please demonstrate that their views and concerns were taken into account in the design of the proposal.</p> <p><b>CR 35:</b> Partly addressed. Please confirm whether tourism sectors representatives have been consulted about the construction of embankments structures.</p> <p><b>CR 36:</b> Not addressed. Please demonstrate that all target villages have been consulted in a gender-sensitive equal way, and demonstrate that gender-related views and concerns are reflected in the program design.</p> <p><b>CR 37:</b> Not addressed. Please explain in a clear manner what type of land-ownership issue may arise for the</p>
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		will tackle the issues related to land ownership mentioned p.58.	mangrove restoration activity, and how the program will tackle it, in compliance with the ESP.
	10. Is the requested financing justified on the basis of full cost of adaptation reasoning?	<p>Likely. However, some clarifications are requested.</p> <p><b>CR 38:</b> Please demonstrate the cost of adaptation reasoning for each component of the proposed program, providing a detailed comparison of a baseline situation and a with-project scenario for each component of the program.</p>	<p><b>CR 38:</b> Not addressed. Please demonstrate the cost of adaptation reasoning for each component of the proposed program, providing a detailed comparison of a baseline situation and a with-project scenario for each component of the program.</p>
	11. Is the project / program aligned with AF's results framework?	Yes.	
	12. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	<p>Yet to be demonstrated. Please note that this section would need to be updated should further technical information be provided with respect to the planned interventions (see CRs above).</p> <p><b>CR 39:</b> The proposal should explain the financial and governance arrangements through which the sustainability of the KM platform would be ensured.</p> <p><b>CR 40:</b> Please elaborate on the <i>“successful mainstreaming process that will provide the adaptation actions with budget allocation”</i> for initial construction and for maintenance of interventions at</p>	<p><b>CR 39:</b> Addressed, as per information provided on p. 70.</p> <p><b>CR 40:</b> Partly addressed. Please clarify whether local governments committed to maintain and finance outcomes arising from the program interventions, especially those</p>

		<p>project ends and describe the policies and governance arrangements through which this process will be ensured.</p> <p><b>CR 41:</b> The economic and financial return is said to be a key driver for the sustainability of the planned interventions. However, the proposal does not provide evidence that the planned interventions would actually yield returns economic and financial returns strong enough to ensure the sustainability of the assets the program would provide. Please provide evidence of the expected economic and financial returns of the proposed activities.</p> <p><b>CR 42:</b> The proposed program plans to implement a pilot financing scheme as main instrument of financial sustainability of some program activities. Such scheme is yet to be described in a detailed manner, as it was pointed out during the review of the concept document. Such explanation should cover information about i) names and types of financial institutions that will be involved; ii) the source and nature of capital that will be provided to support the program activities; iii) the basis on which the financial institutions will grant support to communities; iv) the process</p>	<p>generating visible and tangible results on the ground (e.g. costal embankments, mangrove restoration, etc.).</p> <p><b>CR 41:</b> Not addressed. Please provide evidence of the expected economic and financial returns of the proposed activities in order to highlight the financial sustainability of the proposed interventions.</p> <p><b>CR 42:</b> Partly addressed. Please describe in a comprehensive manner the revolving fund scheme that the program would implement. Such description should notably include information about the selected financial institutions that will be involved; the source and nature of capital that will be provided to support the program activities; the basis on which the financial institutions will grant support to communities; the process through which these loans will be granted; and a demonstration a compliance of the process with the AF</p>
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		through which these loans will be granted; and v) a demonstration a compliance of the process with the AF OPG, ESP and GP. While doing so, please clarify how many projects are expected to be covered and explain how such financial incentives will be scaled up and continued at program end.	OPG, ESP and GP. While doing so, please clarify how many projects are expected to be covered and explain how such financial incentives will be scaled up and continued at program end.
	13. Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	<p>Yes. However, as indicated above, activities must be clearly identified at fully developed proposal stage, to a point where environmental and social risks can be effectively and comprehensively identified, which is not be the case at the moment. Considering the USP nature of most of the project interventions, effective risks identification is not possible at this stage, and therefore the findings presented cannot relate to these activities.</p> <p><b>CR 43:</b> Please demonstrate compliance of the project activities (described at a point where ESP-related risks can be effectively and comprehensively identified) with the ESP. Please confirm that the results of the environmental and social screening and a draft environmental and social assessment, including any proposed management plan, have been made available for public consultations that</p>	<p><b>CR 43:</b> Not addressed. The proposal should clearly identify activities at fully developed proposal stage, to a point where environmental and social risks can be effectively and comprehensively identified, which is not the case at the moment, most of the activities falling into the category of unidentified sub-projects. Statements provided in that section of the proposal and in the ESMP are too vague at the moment, and some need to be clearly substantiated, such as the one stating that no EIAs would be needed for the construction of 900 m long coastal embankments, the restoration of mangroves and the construction of public and private sanitation systems. Pending on the final design of this intervention (see CR2), an EIA prepared in compliance with the ESP may be needed at fully developed proposal stage. Please demonstrate compliance of the</p>



		<p>were timely, effective, inclusive, and held free of coercion and in an appropriate way for communities that are directly affected by the proposed project.</p> <p><b>CR 44:</b> There is no rationale as for why the definition of the grievance mechanism will be finalized during project implementation. The proposal should include a description of the final grievance mechanism that should be in line with the AF policies.</p>	<p>project activities (described at a point where ESP-related risks can be effectively and comprehensively identified) with the ESP, using as needed the guidance document for implementing entities on compliance with the ESP.</p> <p><b>CR 44:</b> Addressed, as per the information provided in the ESMP.</p>
Resource Availability	1. Is the requested project / programme funding within the cap of the country?	Yes.	
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?	<p>Kemitraan, in addition to its role of IE, would also play the role of EE.</p> <p>The IE fee represents 1.369 per cent of the total program budget before the fee.</p> <p><b>CAR 1:</b> Please note that for IE wishing to acting as EE, the IE fee is capped at 8.5 per cent, and the EE costs is capped at 1.5 per cent. Please make the necessary correction and ensure the costs are within the cap.</p>	<p><b>CAR 1:</b> Not addressed. Please note that for IE wishing to acting as EE, the IE fee is capped at 8.5 per cent, and the EE costs is capped at 1.5 per cent. Please make the necessary correction and ensure the costs are within the cap.</p>
	3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme	<p>The EE costs represent 8.675 per cent of the total program budget including the fee.</p> <p><b>CAR 2:</b> Please see the previous CAR.</p>	<p><b>CAR 2:</b> Not addressed. Please note that for IE wishing to acting as EE, the IE fee is capped at 8.5 per cent, and the EE costs is capped at 1.5 per cent. Please make the necessary correction</p>

	budget (including the fee)?	Please make the necessary correction and ensure the costs are within the cap.	and ensure the costs are within the cap.
Eligibility of IE	4. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	Yes.	
Implementation Arrangements	1. Is there adequate arrangement for project / programme management, in compliance with the Gender Policy of the Fund?	<p>Yet to be demonstrated. Kemitraan would both be acting as implementing and executing entity.</p> <p><b>CR 45:</b> Please clarify whether the proposed Program Management Unit (PMU) will be located within Kemitraan, and clarify whether PMU staffs will be hired for the sole purpose of executing the program on a full time basis.</p> <p><b>CR 46:</b> The organigram provided has ambiguous information. For instance, according to Figure 8, the PMU only consist of the Project Team Leader, as the other positions are not included in the PMU frame. Similarly, it appears from the description that the PMU will act at all levels of the program, and not only at the provincial and national level, as suggested in Figure 8. Relationships between Kemitraan and the PMU needs to be reflected on the organigram, based on the previous CR. Also, whereas there is no apparent link between Kemitraan</p>	<p><b>CR 45:</b> Addressed, as per the information provided on p. 113.</p> <p><b>CR 46:</b> Partly addressed. Please clarify, among the different items listed in the “Position” column, who exactly will form the “PMU” and whether they will be Kemitraan staffs. Also, please explain why two finance/admin positions are listed.</p>

		<p>and the city financial institutions in the organigram, there would obviously be relations between these two organizations during program implementation, that are yet to be explained. Please clarify the implementation arrangements accordingly.</p> <p><b>CR 47:</b> Please clarify who would be responsible in monitoring the information provided in the program results framework.</p> <p><b>CR 48:</b> Please clarify who are the “<i>implementing partners</i>” mentioned on p.91 and describe their roles and responsibility.</p>	<p><b>CR 47:</b> Addressed, as per the information provided on p.117.</p> <p><b>CR 48:</b> Partly addressed. Please provide an updated organization chart and clarify how the different implementing partners report to each other.</p>
	2. Are there measures for financial and project/programme risk management?	<p><b>CR 49:</b> Please delete the sentence starting with “<i>A more detail [...] during the full proposal development phase</i>”.</p> <p><b>CR 50:</b> Please confirm that, despite the heavy reliance of the program on a multilevel approach, the risk of weak vertical coordination (from national to village level) has not been identified.</p> <p><b>CR 51:</b> Despite the acknowledged medium level risk of “<i>Low level of support and acceptance from the</i></p>	<p><b>CR 49:</b> Addressed.</p> <p><b>CR 50:</b> Addressed, as per the information provided on p. 121.</p> <p><b>CR 51:</b> Partly addressed. Please further explain the role that beneficiaries will have in designing the</p>

		<i>community could impede participatory approach participatory approach that became the core of this program, causing several of the adaptation options become ineffective or not on-target, and threatening the sustainability of the actions at post-program period”, there is no evidence under the mitigation measures section that villages would have a proactive role in the choice of the adaptation interventions. Please clarify and update the proposal as needed.</i>	interventions.
	3. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy and Gender Policy of the Fund?	Yes.  <b>CR 52:</b> As requested above, please provide an updated ESMP that complies with the ESP and that includes outcomes of CRs raised above.	<b>CR 52:</b> Partly addressed. Please provide an updated ESMP that complies with the ESP and that includes outcomes of the CR raised above.
	4. Is a budget on the Implementing Entity Management Fee use included?	No.  <b>CAR 3:</b> Please provide a budget describing how the Implementing Entity Management will be used.	<b>CAR 3:</b> Mostly addressed. However, the budget should be updated as per CAR 1.
	5. Is an explanation and a breakdown of the execution costs included?	Yes.	
	6. Is a detailed budget including budget notes included?	Yes. However, some clarifications are needed.  <b>CR 53:</b> Some activity names remain too	<b>CR 53:</b> Not addressed. Please consider shifting budget allocation. Indeed, some activities seem to be overvalued (e.g. USD 158,400 of

		vague to assess the justification of their budget allocation. For instance, an activity of “ <i>regular/coordination meeting</i> ” is budgeted at USD 158,400 to establish working groups in the villages, as opposed to the USD 533,846 that will be directed toward concrete adaptation activities under the same component. Please be as precise as possible in describing the exact nature of the activities listed in the budget. Adding budget notes could help in making the proposed budget more precise.	regular/coordination meeting for component 1 only, as opposed to the USD 533,846 that will be directed toward concrete adaptation activities under the same component; USD 110,000 of feasibility studies for actual activities budgeted at USD 533,846). In addition, the budget presented remains too vague with respect of the allocation going toward activity 2.2.1.3.
	7. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators, in compliance with the Gender Policy of the Fund?	<p>Partly.</p> <p><b>CR 54:</b> Only a few indicators and no targets are gender-disaggregated. In compliance with the Gender Policy of the Fund, please disaggregate indicators by gender, wherever possible, and set targets towards a goal of equal participation and representation of women and men.</p> <p><b>CR 55:</b> Please include indicators and other information related to program-level objectives.</p> <p><b>CR 56:</b> The results framework need to be updated with information related to interventions that will be selected (see CRs of section 2 above).</p>	<p><b>CR 54:</b> Not addressed. Please disaggregate indicators by gender, wherever possible, and set targets towards a goal of equal participation and representation of women and men.</p> <p><b>CR 55:</b> Not addressed. Please include indicators and other information related to program-level objectives.</p> <p><b>CR 56:</b> Not addressed. Please update the results framework with information related to interventions that will be selected (see CRs of section 2 above).</p>

		<p><b>CR 57:</b> Please fill the empty field ("*") for outcome 1.1.</p> <p><b>CR 58:</b> Please include in the proposal appropriate arrangements for an effective monitoring and evaluation of the ESMP.</p>	<p><b>CR 57:</b> Not addressed. Please fill the empty field ("*") for outcome 1.1.</p> <p><b>CR 58:</b> Not addressed. Please include in the proposal appropriate arrangements for an effective monitoring and evaluation of the ESMP.</p>
	8. Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	<p>No.</p> <p><b>CAR 4:</b> Please include a break-down of how IE fees will be utilized in the supervision of the M&amp;E function.</p>	<p><b>CAR 4:</b> Not addressed. Please include a break-down of how IE fees will be utilized in the supervision of the M&amp;E function.</p>
	9. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?	<p><b>CAR 5:</b> Please provide indicative core indicator targets (see <a href="https://www.adaptation-fund.org/wp-content/uploads/2016/04/AF-Core-Indicator-Methodologies.pdf">https://www.adaptation-fund.org/wp-content/uploads/2016/04/AF-Core-Indicator-Methodologies.pdf</a>)</p>	<p><b>CAR 5:</b> Addressed, as per the information provided on p.158.</p>
	10. Is a disbursement schedule with time-bound milestones included?	<p>Yes. However, the figures provided do not add-up (see for instance the total of the first row). In addition, the figures presented are different than the ones provided in the project/programme components and financing tables and in other sections of the proposal.</p>	<p><b>CR 59:</b> Addressed, as per the</p>

		<b>CR 59:</b> Please provide an updated table with the correct figures, and check for and ensure consistency about the budget figures provided throughout the document.	information provided on p. 170.
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<b>Technical Summary</b>	<p>The program objective is to build coastal resilience to climate change impacts and natural disasters with a particular focus on pro-poor adaptation actions that involve and benefit the most vulnerable communities of the city. It plans to reach this objective through a combination of hard and soft adaptation measures, distilled along different governance level (national, provincial, city and village level), reflected respectively in each of the four program components. Adaptation interventions remains to be precisely determined, but information provided include developing alternative livelihoods (such as shrimp and fish production), constructing coastal embankments structures, developing eco-tourism, and building capacity of different stakeholders to integrated climate change adaptation into various planning processes.</p> <p>The proposal needs to address some substantial issues such as describing precisely and in a technical way the interventions the program would implement, and the process through which some of them will be determined. Clarification should be provided as for the reasons of postponing several studies and assessments aiming at defining the activities that will be implemented, and if the program could perform the entire scope of activities over the three years' lifespan of the program. Several sections of the proposal do not comply with information expected at fully proposal stage. Clarifications are sought about the consultative process that took place and the extent to which it informed the design of the interventions. Last but not least, clarifications related to the ESP risk screening and the ESMP provided are sought.</p> <p>The document needs to be revised accordingly. A number of issues were raised through the initial review, through Corrective Action Requests (CAR) and Clarification Requests (CR). The final review</p>
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	<p>finds that the fully-developed proposal document has not addressed most of the requests and not provided sufficient information at this stage. The following observations are made:</p> <ul style="list-style-type: none"> <li>i) The proposal should provide sufficient technical information and specifications about the proposed interventions to a point where Environmental and Social Policy (ESP) related risks can be effectively and comprehensively identified. As such, it should consider undertaking the various planned preliminary assessments before submission of the fully developed proposal to allow the final identification of the program interventions;</li> <li>ii) The proposal should further demonstrate the appropriateness of the proposed interventions in responding to the threats posed by climate scenarios;</li> <li>iii) The proposal should explain how the infrastructures the program plans to build will be made themselves resilient to the impacts of climate change;</li> <li>iv) The proposal should demonstrate how the program and its associated interventions would meet the relevant national technical standards, in compliance with the ESP;</li> <li>v) The proposal should provide evidence of a comprehensive, gender-responsive consultative process involving all direct and indirect stakeholders of the proposed program and should demonstrate that the outcomes of the consultative process were taken into account in the design of the proposed interventions;</li> <li>vi) The proposal should demonstrate compliance of the project activities with the ESP.</li> </ul>
Date:	09/07/2018









**ADAPTATION FUND**

**REQUEST FOR PROJECT/PROGRAMME  
FUNDING FROM THE ADAPTATION FUND**

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project/programme must be fully prepared (i.e., fully appraised for feasibility) when the request is submitted. The final project/programme document resulting from the appraisal process should be attached to this request for funding.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat  
1818 H Street NW  
MSN P4-400  
Washington, D.C., 20433  
U.S.A  
Fax: +1 (202) 522-3240/5  
Email: [afbsec@adaptation-fund.org](mailto:afbsec@adaptation-fund.org)



## ADAPTATION FUND

## PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

## PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	REGULAR Project Concept
Country/ies:	INDONESIA
Title of Project/Programme:	<i>Building Coastal City Resilience to Climate Change Impacts and Natural Disasters in Pekalongan City, Central Java Province</i>
Type of Implementing Entity:	National Implementing Entity
Implementing Entity:	Kemitraan (The Partnership for Governance Reform)
Executing Entity/ies:	Kemitraan (The Partnership for Governance Reform)
Amount of Financing Requested:	4,127,065 (in U.S Dollars Equivalent)

**Project / Programme Background and Context:**

*Provide brief information on the problem the proposed project/programme is aiming to solve. Outline the economic social, development and environmental context in which the project would operate.*

**Indonesia and Climate Change Impact**

Indonesia is among the largest archipelago in the world which constituted of over 18,000 islands (both populated and not populated islands) with around 230 million populations. Its vast coastline that stretches over 18,000 km (in total) is the home for almost 60% of Indonesian population<sup>1</sup>. Scientists had observed changes in climate indicators in Indonesia over the past several decades, and concurrently made projection using AR-4 IPCC model to assess the future changes with results as below<sup>2</sup>:

- Average surface temperature increases will reach 0.8°C-1°C until 2020-2050 relative to the final climate period in the 20<sup>th</sup> century.
- Sea surface temperature increases will reach 1-1.2°C by 2050 relative to 2000.
- In the period of 2001-2100, there will be significant changes (especially in 2080s period) with a tendency of rainfall increase in wet season and a decrease in transition months.

<sup>1</sup> Akhmadi et.al., 2012, *Impact of Climate Change on Households in the Indonesia CBMS Area*, SMERU Research Institute

<sup>2</sup> Bappenas, 2010, *Indonesia Climate Change Sectoral Roadmap*

- Sea level rise (SLR) is projected to reach 35-40 cm in 2050 relative to the value of 2000. The maximum SLR may reach 175 cm in 2100.

Considering its geographic traits as an archipelagic country that consists of not only large but also great numbers of small islands, changes in the above indicators could potentially bring a significant impact and affect diverse development sectors in Indonesia, and consequently affecting the area's sustainability. The risks are deemed as higher for coastal area and population as a result of close exposure to coastal-related climate change impacts in the forms of climate-related disaster events, coupled with their low socio-economic capacity. In March 2015, Indonesian poverty rate reaches 11.22%<sup>3</sup>. Poverty is claimed as rural phenomenon considering that 60% of the poor are living in rural areas; where most of the poor were identified as living in Java Island<sup>4</sup>. Research conducted by the Ministry of Marine and Fishery shows that from a total of around 41 million poor population of Indonesia, over 13.5% of them are living in coastal area; they live in poverty level with minimum services to basic infrastructure<sup>5</sup>. Exposed to sea level rise, high tide, extreme weather and also the subsequent impact such as salt water intrusion; the coastal population often does not have adequate resources to face those risks, leaving them highly vulnerable to climate change impacts.

### **Climate Change Impact Affects the Economic Sustainability of North Coast of Java**

North Coast of Java is one region that have repeatedly affected by climate change impact. Sea level in this region is rising between 6-10 mm/year<sup>6</sup>. Despite SLR projection in this region is not the highest in Indonesia, but its high population density and rapid urban development in comparison to other coastal area has placed North Coast of Java as highly vulnerable to climate change impact. As the major and busiest corridor for human and logistics mobilization in Java as well as one of the largest rice producer regions in Indonesia, disruption to this region will hinder economic activity in the island. For instance, flash flood and coastal flooding in 2014 (in Central and East Java region of North Coast Java) had inundated over 40,000 Ha of paddy field and damaging thousands of hectares of brackish water fish pond, causing failed harvesting in those land; imposing significant economic cost to the farmers and fishermen<sup>7</sup>. Another coastal flooding in mid-2016 (in Central Java area of North Coast Java) have caused 50-120 cm inundation in the major road access, leads to a significant delay in logistics distribution to several industrial area in central and eastern Java; crippling the industrial activity<sup>8</sup>.

This program will focus on building resilience to climate change impacts in Pekalongan City, one of the coastal cities in Central Java Province (in North Coast of Java region), by employing interventions in the form of not only hard structure but also soft structure; touching not only physical interventions but also building their socio-economic and institutional capacity.

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<sup>3</sup> Indonesia Central Bureau of Statistics, 2015

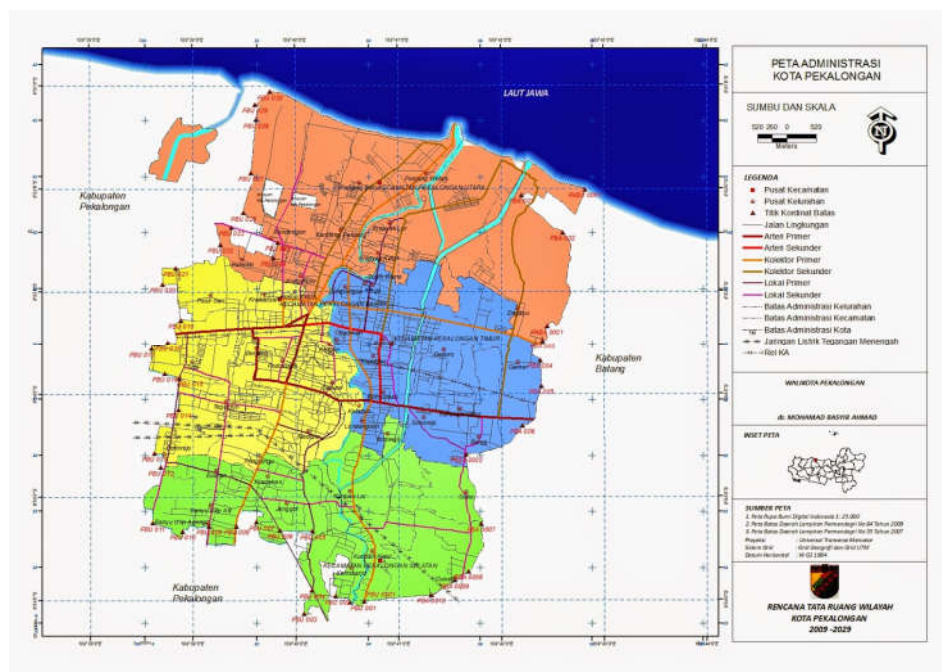
<sup>4</sup> Akhmadi et.al., 2012

<sup>5</sup> Secretariat of Republic of Indonesia Vice President, 2011, *Presentation on Inventory on Poor Household in Coastal Area/Fishermen*

<sup>6</sup> Suhelmi, 2012, *Assessment on the Vulnerability of Semarang Coastal Area to Sea Level Rise by Utilizing Composite Vulnerability Index*

<sup>7</sup> Kompas, 2014, *Food Production is At Risk (online-reading)*

<sup>8</sup> Kompas, 2016, *When Nature Responds to Human Greed (online-reading)*



**Figure 1. Administrative Map of Pekalongan City**

### Geographical, Social and Economic Condition of Pekalongan City

The City of Pekalongan is comprises of 4 sub-districts with a total administrative area of 45.25 km<sup>2</sup> and a total population of 296,533 people, where 31.3% of the population lives in Pekalongan Barat sub-district<sup>9</sup>. In 2015, 8.09% of Pekalongan population lives below poverty level, which in this particular city is set at Rp. 352,717 (27.13 USD)/capita/month. This is a slight increase in comparison to 2014, where the poor population was accounted for 8.02% of the population<sup>10</sup>. Geographically, the city is located in lowland plain with an average height of 1 m above sea level (a.s.l) and highest point within the city at 6.5 m a.s.l.

Seven rivers flow through the city and reaches Java Sea as the estuary, with Pekalongan River as the main river. There are several rivers that often overflow during high intensity rain event, namely Pekalongan River, Brengi River and Bangger River; causing 50-100cm inundation in many villages, and at times forcing the population to be evacuated for several days. This flash flood is considered as a recurring disaster in Pekalongan City.

Its economic state in 2014 shows that Manufacturing Industry, Trading and Retail, and Construction are three economic sectors with the highest contribution for the city's Gross Regional Domestic Product (GRDP), with GRDP growth for each sector ranging between 4-6% from 2013. Looking at the GDRP contributor, it is suitable to see that 38.46% and 28.14% of the population works in Industrial and Trade sector respectively. This also attributed to the fact that Pekalongan City is one of the main 'Batik' producers in Indonesia that not only supply national but also international market. As part of the largest rice producer region, Agriculture, Forestry and Fisheries sector is also one of the main economic sectors in Pekalongan City; ranks 6<sup>th</sup> on

<sup>9</sup> Pekalongan Bureau of Statistics, 2015

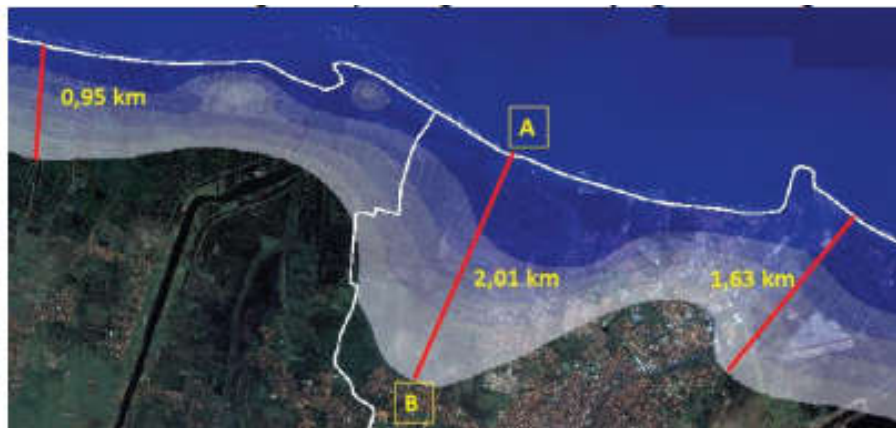
<sup>10</sup> Pekalongan Bureau of Statistics, 2015

the GDRP contribution in 2014 with over IDR 400 million of income, and attracts 4.65% of the population to work in the said sector<sup>11</sup>.

### Changes in Climate Change Indicators in Pekalongan City

Over the past several decades, assessment shows that there have been changes to climate indicators in Pekalongan City, especially those related to sea level, precipitation level and frequency, as well as temperature. These changes were also felt by the city population, particularly in the form of increasing frequency and intensity of climate-disaster events.

Historical trend shows that there is a 0.6-0.8 cm rise in sea level annually. In 2030, this number is projected to increase up to  $22.5 \pm 1.5$  cm annually; and in 2100, sea level rise in Pekalongan City is projected to reach 0.8 m and consequently affect 913.8 Ha area within 1.63-2.01 km distance from the city coastline. According to Pekalongan City Agriculture and Marine Agency, the city coastal vulnerability index is at 2.4 from a maximum scale of 3<sup>12</sup>. The impact of coastal flooding will not only affect coastal-related sector such as fishery and tourism, but could also create domino effect to other development sectors; posing an imminent threat to the sustainability of the city.



**Figure 2. Projected Inundation in Pekalongan City Coastal Area in 100 Years Period (Pekalongan City Government, 2011)**

The same study also shows how the precipitation pattern and level in Pekalongan City have change in 40 years period. The peak rainy season is shifting and occurring in a shorter period but with an increasing intensity. In future time, the peak rainy period is projected as will become shorter and occurring in November-January period, which could potentially leads to an increase in flooding intensity and frequency. Meanwhile dry season will occur in a longer period with a lower precipitation intensity that could cause prolong drought and water scarcity subsequently<sup>13</sup>.

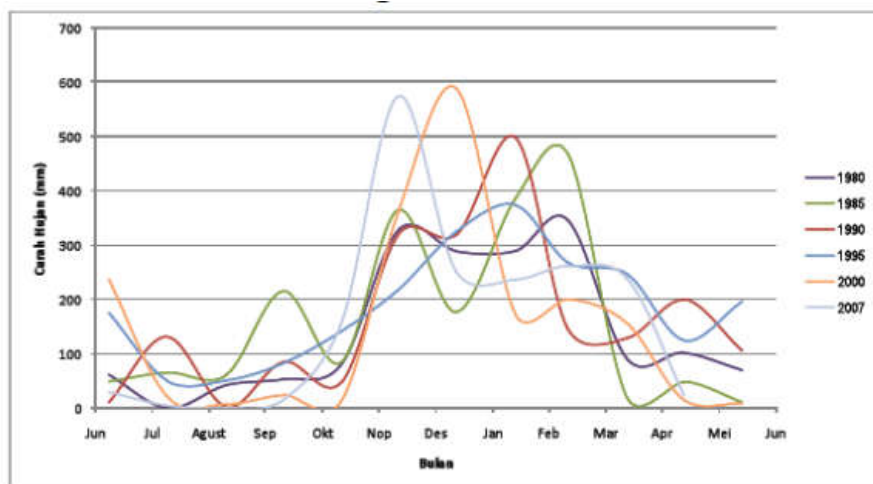
Other changes that was assessed is surface and sea surface temperature in North Coast of Java. Historically, there is only slight increase in the surface temperature, with 0.004-0.04°C increase annually. Yet projection shows that in the next 100 years, there will be 0.4-4 °C increases in surface temperature. This believed as will then affect the sea surface temperature

<sup>11</sup> Pekalongan Bureau of Statistics, 2015

<sup>12</sup> DKP, 2008 in Pekalongan City Government, 2011, *Pekalongan City Risk Profile*

<sup>13</sup> DKP, 2008 in Pekalongan City Government, 2011, *Pekalongan City Risk Profile*

at coastal area in a rate of 0.05-0.1°C annually, prompting changes in the surrounding ecosystem<sup>14</sup>.



**Figure 3. Precipitation Pattern in Pekalongan City in 1980-2007 Period (Pekalongan City Government, 2011)**

### **Pekalongan City is at Risks from Climate Change Impact**

Considering its geographical and hydrological attributes, Pekalongan City is no stranger to climate change impact in the forms of climate-disaster events. Changes in the aforementioned climate indicators are believed to increase the severity of the impacts. The city has a history of recurring events of coastal flooding and flash flood. Added with extreme weather events and prolonged drought, Pekalongan population have suffered significant damage from this climate-disaster events that goes beyond physical structure damage and inundated productive land in the coastal area, but they also imposed by socio-economic cost.

Coastal flooding is one of the most frequent risks faced by Pekalongan City. The coastal community experiences daily coastal flooding for the past 10 years. During high tide, the affected villages will be inundated for a period of 2-4 hours. Houses, public facilities, roads and also paddy field are all overflowed by the flood. The flood intensity is deemed as increasing each year. In 2012, coastal flooding inundated 8 villages and causing significant damages to ports and settlement area (and the infrastructure within) with water level reaches 110 cm, while also affecting 100 Ha of paddy field; whilst in 2016 the affected area is increasing to 10 villages and 197,5 Ha of paddy fields. Historical record shows that the height of coastal flooding in 2016 is considerably higher compared to the previous years; prompted the Mayor to declare Pekalongan City as in emergency state to coastal flooding<sup>15</sup>.

### **Climate Change Vulnerability Index of Pekalongan City**

To validate and further emphasize the correlation between the aforementioned risks to climate change impact, a study was conducted in 2012 on Pekalongan City Climate Vulnerability by

<sup>14</sup> DKP, 2008 in Pekalongan City Government, 2011, *Pekalongan City Risk Profile*

<sup>15</sup> Marfai et.al., 2013, *Spatial Modelling of Coastal Flooding Inundation Based on Climate Scenario and Its Impact on Pekalongan Coastal Area*



SMERU Research Institute. The study assesses the exposure of Pekalongan City to three types of climate-related disasters frequently occurred in the city (flash flood, coastal flooding and landslides), the area's human and ecological sensitivity, and their adaptive capacity.

The result shows that more than 25% and 10% of Pekalongan City population are exposed to flash flood and coastal flooding due to SLR in that order. With respective climate exposure index to flash flood and coastal flooding of 0.39 and 0.31, Pekalongan Utara sub-district is assessed as the most exposed area to both climate-related disaster events; putting them at a total Climate Change Exposure Index of 1<sup>16</sup>.

**Table 1. Climate Change Exposure Index of Pekalongan City (SMERU, 2012)**

Sub-district	Flash Flood	Coastal Flooding from SLR	Landslide	Exposure Index
Pekalongan Barat	0.2365	0.0067	0.0994	0.3426
Pekalongan Timur	0.0851	0.0303	0	0.1154
Pekalongan Selatan	0	0	0.2812	0.2812
Pekalongan Utara	0.3900	0.3100	0.300	1

For Sensitivity Index, livelihood, ecology and population are three aspects that being considered. Based on the sensitivity assessment, Pekalongan Selatan is the most sensitive sub-district with 0.60 sensitivity index, due to the fact that the area is the center for batik industry and agricultural land in the city. As one of the major industries in Pekalongan, disruption to the sustainability of Batik industry could affect the economic condition of batik workers in particular and the city's income in general. Climate-related disaster could affect batik industry either by flooding the industrial area or contamination of immersion water from flood water. Meanwhile inundation from flash flood in agricultural area could leads to a severe failed harvesting. The second most sensitive sub-district is Pekalongan Utara with 0.48 sensitivity index attributed to the fact that majority of the sub-district's population works in fisheries sector, which at risk of economic losses from the loss of brackish water fish pond, damage to their house as well as changing fishing pattern and location<sup>17</sup>.

**Table 2. Climate Change Sensitivity Index of Pekalongan City (SMERU, 2012)**

Sub-district	Livelihood at Risk	Ecology at Risk	Population at Risk	Sensitivity Index
Pekalongan Barat	0.06	0.00	0.16	0.21
Pekalongan Timur	0.02	0.14	0.22	0.38
Pekalongan Selatan	0.23	0.13	0.24	0.60
Pekalongan Utara	0.18	0.05	0.25	0.48

For adaptive capacity index, the calculation take account of aspects that are deemed as most needed for facing and recovering from climate-related disaster events, comprising of

<sup>16</sup> Akhmadi et.al., 2012

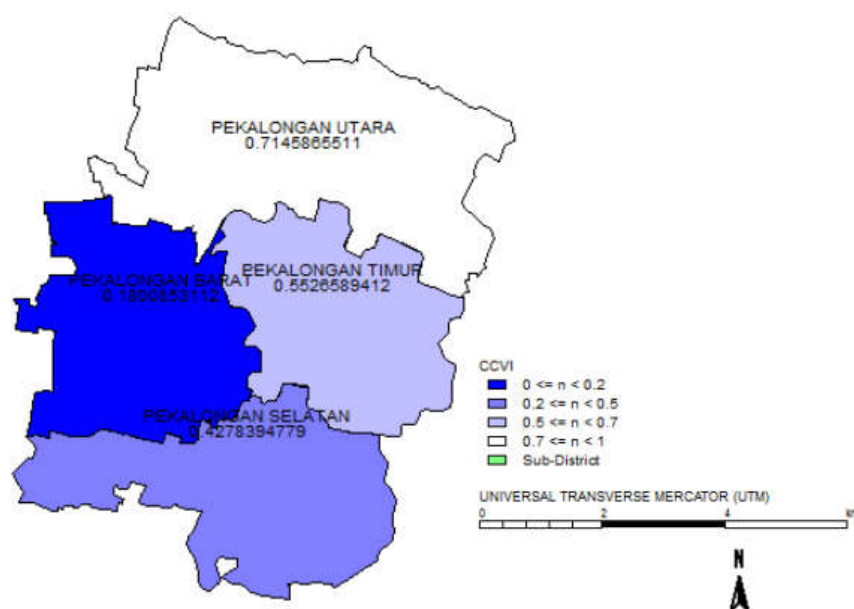
<sup>17</sup> Akhmadi et.al., 2012

infrastructure, technology, health facilities, institutions and economic conditions. Pekalongan Barat has the lowest Adaptive Capacity Index of 0.0010 which indicates the area is the most adaptive amongst other sub-districts<sup>18</sup>.

**Table 3. Climate Change Adaptive Capacity Index of Pekalongan City (SMERU, 2012)**

Sub-district	Infrastructure	Technological Information	Health	Institution	Economic	Adaptive Capacity Index
Pekalongan Barat	0.2600	0.1389	0.1900	0.2000	0.2100	0.0010
Pekalongan Timur	0	0.0883	0.0382	0.0363	0.0946	0.7426
Pekalongan Selatan	0.0469	0.0073	0	0.0557	0.1409	0.7492
Pekalongan Utara	0.2414	0.0315	0.0331	0.669	0	0.6270

Having aggregated the exposure, sensitivity and adaptive capacity index, **Pekalongan Utara** is assessed as being the **most vulnerable sub-district** to climate change with 0.72 index. The high vulnerability of Pekalongan Utara is due to the fact that the area is highly exposed to climate change impact, particularly coastal flooding; while also has a relatively high sensitivity and low adaptive capacity. Meanwhile its high sensitivity and low adaptive capacity is the major factor for Pekalongan Selatan's vulnerability, despite the fact that the area has a relatively low exposure index.



**Figure 4. Climate Change Vulnerability Index of Pekalongan City (SMERU, 2012)**

**Climate Risks are Detrimental to Socio-Economic-Ecological State of Pekalongan City**

<sup>18</sup> Akhmadi et.al., 2012

It was projected that in 2050, the maximum inundation water level could reach 135 cm that could cover up to 1,295 Ha of residential area, 507 Ha of paddy field and 230 Ha of wetland and fish pond; covering 51% of the Pekalongan administrative area<sup>19</sup>, where Pekalongan Utara will experience the most severe impact from this event because of its geographical location in the coastline of Pekalongan City. The previously mentioned sea level rise projection in 2100 that would affect area up to 2.01 km from the city coastline further highlights the vulnerability of Pekalongan Utara<sup>20</sup>.

Pekalongan Utara population that predominantly works in fishing industries will be highly affected economically from this; forcing them to alter their fishing practices (both those who fishes in the sea and cultivating fish pond) and adapting to recurring inundation in their neighbourhood. For a city where fisheries became one of the major economic sectors such as Pekalongan (6<sup>th</sup> GDRP contributor), a recurring coastal flooding would potentially hurting its economic condition. Not to mention impact to the surrounding ecosystem. Inundation in the herding area leaves the livestock without proper feed; several fruit plantations cannot grow due to changes in water salinity after flooding. Overexploitation of groundwater further exacerbated the flood intensity and impacts by causing land subsidence in the coastal area. Salt water intrusion have been experienced by those who rely on ground water for their daily needs, for instance in Panjang Wetan village (Pekalongan Utara Sub-district)<sup>21</sup>.

As mentioned above, these climate-related risks will not only damaging the settlement and infrastructure but also pose a severe threat to the area's food security, as well as other area that depends on Pekalongan for their staple food supply. Losses from the inundation of the paddy field are predicted to extend between IDR 19.33 and 24.10 billion (USD 1.486.923 – 1.853.846) for a range of affected paddy field area between 945-1,339 Ha<sup>22</sup>. Another study conducted on loss and damage due to coastal flooding in Bandengan Village (Pekalongan Utara Sub-district) shows that the said village experience over IDR 188 billion (USD 14.461.5380 loss and damage over the period of 2000-2016. This number encompasses the loss of agricultural land productivity, infrastructure damage as well as loss of income and increasing household expenses due to the flooding events<sup>23</sup>.

### **Pekalongan City Efforts to Address Climate Risks**

Considering the above climate-related risks and their domino effect faced by Pekalongan, addressing the risks become of importance to the city. Diverse measures have been taken by local government of Pekalongan City to address this issue; both conducted self-sufficiently as well as with the assistance from third party. Self-sufficiently, the local government has developed evacuation plan annually for the purpose of community mobilization during flooding. They have also implemented short-term measures by providing economic assistance in the form of fish seed and fish nets, as well as physical assistance such as raising embankments and

<sup>19</sup> Marfai et.al., 2013, *Spatial Modelling of Coastal Flooding Inundation Based on Climate Scenario and Its Impact on Pekalongan Coastal Area*

<sup>20</sup> DKP, 2008 in Pekalongan City Government, 2011, *Pekalongan City Risk Profile*

<sup>21</sup> Akhmadi et.al., 2012

<sup>22</sup> Kasbullah&Marfai, 2014, *Spatial Modelling of Coastal Flooding Inundation and Assessment on Potential Loss on Paddy Field Agricultural Land, Case Study: Coastal Area of Pekalongan District*

<sup>23</sup> Bintari, 2016, *Loss and Damage – Climate Change Impact in Coastal Area of Pekalongan City*

build productive roads in the embankments area. The local community have also implementing voluntary adaptive measures, albeit a simple one due to economic restraints; such as: raising their floor levels, changing livelihood, river cleaning etc. Yet these measures were conducted partially, without a comprehensive planning that could relate the root cause of the issue to the implemented activities, so that the results are slightly ineffective, especially when considering long-term perspective.

Pekalongan City had also cooperated with different local and international NGOs as well as development partners in this climate change issue. PAKLIM-GIZ had assisted the city in developing their GHG Emission Profile, Risk Profile and also deriving the relevant Integrated Climate Change Strategy (ICCS); in which the latter is claimed as successfully integrated to the existing Mid-Term Development Plan of Pekalongan City. However in actual, the integration is limited to inserting the actions into development plan matrix, without consideration of climate change as the strategic development issue for the city; losing the actual meaning of mainstreaming process. ACCCRN Indonesia (a program under Mercy Corps Indonesia) further assist the city in managing the issue by providing capacity building for both the community and local government to enhanced their awareness and knowledge on this matter. By doing so, the program expected that the city could develop the corresponding adaptation activities.

During ACCCRN implementation period, a city climate working group was developed. The said group is a multi-stakeholder group, comprises of not only local government representative, but also academicians, community member and local NGOs. The group members are appointed by name and legalized by Mayor Decree. The rationale behind its development is the fact that at that time, climate context and how it relates to city development has not been considered by the local stakeholders; and thus this context had not been taken into account within the local development plan. The existence of such group with members that had been equipped with adequate skill in climate context and the mainstream process is expected as could serve as a local think-tank that could provide support and recommendation to local government on climate-related issue. In 2016, the continuation of city climate working group was somewhat hindered due to Pekalongan City Mayoral Election. The election results had caused several key members of the group experience job transfer to other local government agencies or section with minor relation to climate issue. Without a strong figure that could push the group to continue its works, Pekalongan City climate working group thus became inactive. Throughout its lifetime, city climate working group was considered as had been able to provide local government with sound input and recommendation particularly in providing climate perspective when discussing development issue. Especially considering the fact that the group comprises of people from diverse background that could provide compelling and comprehensive argument built from different perspective and equipped with scientific basis. However, one glaring weakness of the group is how the member was appointed by name, instead of institution. Consequently, if the appointed person is experiencing job transfer to other unrelated institution, thus his/her involvement in the group can somewhat diminish. These lessons learned are considered in developing the proposed program; boosting its strengths and tackle its weaknesses. **How will the Program assist the City of Pekalongan in Effectively Addressing Climate Risks**

Despite these diverse measures and partnership, when talking about the effectiveness of the measures to reduce climate-related risk in the city, there is lack of evidence that can be offered.

There is no study on how the measures assist in reducing the city's risk level or was it really reducing at all; no assessment that can relate the implemented measures to the initial and post-intervention risk level. Nonetheless, the community and local government have been exposed to climate change issue in the past few years, so that many can be said about their increasing level of awareness.

From the above narration, it can be said that adaptation measures taken in Pekalongan City to address climate change issue are somewhat lacking in evaluation, in which derives from the non-existent of a comprehensive climate risk assessment. A such-complex issue as climate change needs across-the-board measures to be able to address the issue effectively, and from its roots. Considering that most of the risks are deriving from changes in climate indicators, hence it is of importance to develop climate risk assessment prior to intervening with different projects, so that the projects results can be tracked back to the initial level of risk.

It is this gap that this proposed program tries to bridge, by implementing comprehensive approach encompassing technical assessment, planning, intervention, and also monitoring and evaluation; which will be supported by framework and measures to fortify institutional mechanism on climate adaptation and resilience issue. In practical the program components will be started with identifying the roots of the problem (climate risk assessment) and followed by developing and implementing the adaptation plan (in the form of intervention projects) which results can be track back to the problem; while simultaneously building stakeholders' capacity and advocating climate resilience policy along the course of the program.

This approach will be taken at 4 governance level; starting from village (community) level, city level, provincial level up to the national level; to ensure the interlink of plan and actions across those different level. Capacity building and developing adaptation plan as well as implementing the corresponding plan will be the fundamental of the approach at village and city level. Meanwhile at provincial and national level, mainstreaming and advocacy will be the primary component. Synchronization of adaptation plan will be at the core of the approach at every level.

Climate risk assessment process will be done at village and city level. At city level, the assessment will utilize Vulnerability Index Data Information System (Sistem Informasi Data Indeks Kerentanan/SIDIK), a vulnerability assessment tool developed by the Ministry of Environment and Forestry. SIDIK is a web-based data and information system that can be used to assess the vulnerability level of an area and/or sector to climate change impact. SIDIK has a standardized data and methodology which enable the user to compare vulnerability level across different areas in Indonesia. Despite its standardized character, SIDIK acknowledge that every region has different level of data, type and accuracy; and thus the system provides space for adjustment. SIDIK user could use a more accurate data and indicator for the system that is available in their region.

For the purpose of this program, given that the system is initially built for land-based region, adjustment will be made to SIDIK. To be able to capture the vulnerability of Pekalongan City with its coastal characteristics, vulnerability indicator within SIDIK system need to incorporate coastal-related data. The adjustment will then provide input for SIDIK developer to improve their

system by including coastal attributes. This future improvement will be essential seeing how coastal cities/districts are spread out across Indonesian coastline.

At village level, a Participatory Climate Risk Assessment will be the chosen approach. The initial step of the program at this level will be establishing village working group, and delivering a series of training to build their knowledge on climate change adaptation and coastal resilience. This is expected to assist them in developing much sounder climate risk assessment. This two-tier risk assessment at community and city level will be done to ensure a synchronized adaptation planning at both level, which does not happen often in the past; the city government project at times did not fully serve the actual community needs.

Having taken into account the existing Climate Change Vulnerability Index, climate risks faced by the area, as well as losses imposed to the respective community, hence the geographical scope of this program at village level will focus on the coastal part of Pekalongan City which historically imposed by climate-related risk in the form of coastal flooding and abrasion. The coastal area falls under the administrative area of Pekalongan Utara sub-district. Pekalongan Utara is the largest sub-district in Pekalongan City with a total administrative area of 14.88 km<sup>2</sup> that inhabited by 78,470 population (in 2014), the second highest population number amongst sub-districts in Pekalongan City. From that number, 50.2% are women<sup>24</sup>. The sub-district is located in the northern part of Pekalongan City, directly interfacing the Java Sea which subsequently placing them vulnerable to coastal flooding with intensity that could potentially higher from sea level rise. Pekalongan Utara constitutes of 7 villages; in which Panjang Wetan village is the most vulnerable to flash flood, while Krapyak Lor is the most vulnerable to coastal flooding<sup>25</sup>. In addition to 7 villages within Pekalongan Utara Sub-district, the village level scope for this program will also include Pasirkraton Kramat village in Pekalongan Barat Sub-district that assessed as prone to coastal flooding. The significance of addressing coastal flooding risks in these villages further underlined by the city government publication of Pekalongan City Coastal Flooding-prone Map 2016 which shows how the all of the villages targeted in this particular program are categorized as highly prone to coastal flooding.

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<sup>24</sup> Pekalongan Bureau of Statistics, 2014

<sup>25</sup> Akhmadi et.al., 2012

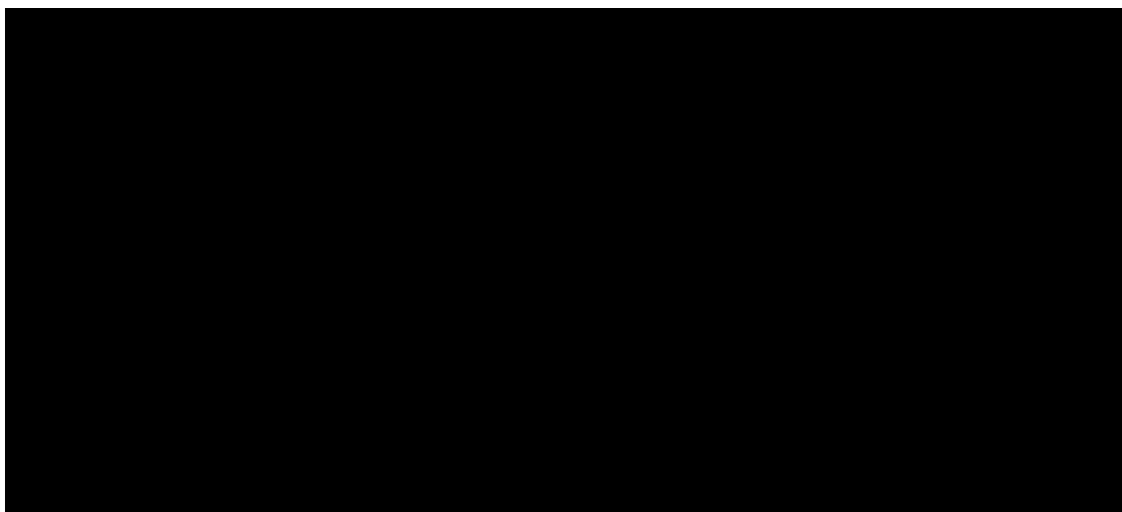


**Figure 5. Pekalongan City Coastal Flooding-prone Map Year 2016 (Pekalongan City Government, 2017)**

Historical data shows that between the period of 2007 and 2016, the total inundated area in 9 villages (Degayu, Krapyak, Panjang Wetan, Panjang Baru, Kandang Panjang, Padukuhan Kraton, Bandengan, Pasirkraton kramat and Tirto) keeps increasing; from 70 Ha in 2007 to 247 Ha in 2016. The 2016 event was recorded as affecting a total of 9,301 households in those villages. The severity of this flood event further highlighted by the loss of land over the past 10 years period. Since 2007, over 73% of paddy fields within the 9 villages are permanently inundated, where some of the area can be salvaged into brackish water pond whilst the other became unproductive land; leaving only 119 Ha of productive paddy field in 3 villages, which are Degayu, Krapyak and Tirto village. Not only the paddy fields, observation shows that some households in Pekalongan Utara sub-district are permanently inundated. The community are actually living with water. This would certainly affect their health condition; placing them susceptible to water-borne diseases. Based on interview, it was mentioned that community who lives in the inundated area are suffering from disease such as diarrhea and rashes. However, currently, the city has no statistical information on the number of diarrhea and rashes cases due to flooding. Yet, this health risk should be considered when designing the program since it has the potential to increase community's vulnerability in facing climate change impact.

Initially, program implementation at village level was intended to cover the 9 inundated villages. But further observation and clarification made during the full proposal development process shows that flooding and inundation occurring in Tirto Village is predominantly caused by river flooding (river overflow), instead of coastal flooding. River Brengi sedimentation, blockage from solid waste being disposed irresponsibly by the community, and overpopulation of water hyacinth (rooted from waste water disposal) in its surface are said to be the main cause of the flood. Tirto village is indeed affected by coastal flooding, but the impact is deemed as very little in comparison to the other targeted villages, especially if River Brengi is being normalized regularly and the local government implement an effective waste and waste water management

system for the area. Hence for this proposed program, intervention area at village level will only cover 8 villages; and Tirto Village will not be included as part of the implementation. This decision to take out Tirto from the village implementation area had been consulted and agreed by village leader and city officials. Yet this decision does not necessarily means that the village will not be benefited from the program, since they could involve in and benefited from program implementation at city level. .



**Figure 6. Permanently Inundated Agricultural Land in Pekalongan Utara (Site Observation, 2017)**

**Figure 7. Inundated Settlement Area in Pekalongan Utara (before Rainfall) (Site Observation, 2017)**

Pertinent to institutional mechanism and framework that are trying to be instilled within this program, designing an effective mainstreaming mechanism will be among the basics. This program is intending to mainstream the risk assessment results and the subsequent adaptation plan to local government development plan, as well as synchronize it with local spatial plan, to ensure that activities taken in the coastal area are consistent with its legal designation. Adaptation plan at village level will be mainstreamed to the village development plan, and



subsequently submitted and advocated during development plan meeting at sub-district level. This plan will continue to be advocated during the succeeding development meeting at city level. The results will also be synchronized with adaptation and development plan at provincial and national level. This vertical synchronization is believed as will be able to inform and foster a better climate adaptation policy. The mainstreaming process will be accompanied by reactivation of city climate working group. Learning from the past experience, in the proposed program, the appointment for city climate working group member will be by institution. Hence in the new Mayor Decree, no individual name will be written; instead it will be institution name (and section name for local government agency). This move is to ensure that the group will still be represented by appropriate and capable person in the event of the previous representatives are unable to continue their involvement in the group. The group member will still be maintained as comprising actors from different institutional background to ensure their discussion and recommendation take account of different perspectives and interests.

In 2014, the Government of Indonesia had published their National Action Plan on Climate Change Adaptation (RAN-API), a document outlining adaptation strategy and program that will be implemented nationally by the country for a 5-year period. RAN API is expected to be mainstreamed into provincial and local level, in which adaptation plan made at both level should reflect and in harmony with the content of RAN API, while at the same time aiming to address climate-related risks in the respective area.

At this moment, the RAN API Secretariat is in the process of tagging adaptation activities at national level, whereas the locus area for the said activities will be at city/district level. Ensuring a synchronize local-provincial-national adaptation plan would potentially assist the city in tapping adaptation-related funding that budgeted at the national level. Not to mention the fact that a synchronize activities will assist the national government in assessing the effectiveness of RAN API implementation. Planning can be made at national level, but the implementation would almost always be at local level, as the party that directly facing the risks. Hence developing an effective adaptation activity at local level is essential here.

In relation to RAN API, Pekalongan City also has the benefit being chosen as one among 15 pilot locations of RAN API; putting them at the forefront for adaptation-related activities. Pertinent to this matter, mainstreaming process that will be conducted under this program is expected as will set an example on how to synchronize adaptation plan and program at four government levels, as well as mainstream the said plan to the local development plan. Lessons learned from the mainstreaming process can be disseminated to other pilot locations.

Managing climate change impact in coastal area is already a complex issue, which intricacy can be amplified seeing how nature and physical resources are interconnected in a manner where changes in one area could affect the other. Examples on this interconnection are displayed at Pekalongan City. Around 70% of paddy fields were inundated from coastal flooding, forcing the farmers to change their livelihood and alter the inundated land into brackish water pond, whereas this livelihood shift had somewhat assist the community from losing their economic income completely, but on the other hand this alteration could lead to environmental pollution if the conventional fish farming practices employed at the moment did not consider or mitigate

potential soil and water contamination. Furthermore the loss of this agricultural land has caused a decrease in rice production, tipping the food supply balance in the particular area and other dependent area. Another example is how the dense coastal settlement area is not serviced by water piping from the state-owned water company, prompting the community to rely heavily on groundwater. Land subsidence from significant coastal land use change over the years, coupled with this groundwater exploitation, topped by frequent coastal flooding; all those combined and have caused salt water intrusion in the settlement area, leaving the community susceptible to health issue from daily consumption of water that has salinity above standard.

Aside from health issue, the combination of land subsidence from land use change and continual groundwater extraction could exacerbate the impact of coastal flooding in coastal area. These aspects are among the identified non-climatic barrier for the program achievement. The design of the proposed program had considered this potential barrier by developing City Climate Risk Assessment and the subsequent action plan early in program implementation; while also involving BAPPEDA as the leading sector for development plan within the program. The Climate Risk Assessment and Action Plan will entail recommendation for climate-resilient development and spatial plan; to reduce massive land use change into built environment in coastal area. Meanwhile BAPPEDA and other relevant government institutions will be equipped with knowledge and information on the correlation between land use change, land subsidence and coastal flooding risk. At the moment, city officials that are involved in the proposal development had understood the connection between land subsidence and coastal flooding. But since this info is still new to them, they have yet take action on this matter. The program is expected as will support them in addressing this issue. Additionally, reflecting upon the negative impact of groundwater extraction, thus water resource facility built as part of the program will shy away from ground water, and search for alternative source. Based on discussion with city officials, the most feasible source for coastal area will be surface water from neighbouring area and rainwater (for non-potable water use).

Seeing these risks faced by the area, resilience building process in this proposed program will be focusing its work in strengthening food security, enhancing community livelihood while simultaneously preserving the environment; touching not only practical aspect but also promoting policy. Sustainable development principle will be held at core here to ensure efforts being done at one sector will not create negative impact and incremental losses in the other.

In view of this multifaceted issue, the proposed program framework will be instilled by multidisciplinary and iterative process, with a series of assessment, study and activities to be derived from. Accordingly, the program will not only emphasizing on building hard structure, but also strengthen soft structure (institutional realms, including capacity building) in addressing the issue; creating a paradigm shift from the conventional approach that mostly revolving around building infrastructure that could only serve short-term purposes to newer perspective that allow for continual development and evaluation. This approach will try to simultaneously address the issue of physical structure for coastal protection and adaptation, preserving and developing community livelihood in addition to developing and promoting local tourism in coastal area; balancing the objectives in the above sectors without jeopardizing the sustainability of the others. At the core of this framework is collaborative approach by fostering multi-stakeholder

involvement, to bring about different interest on the issue and resolve it amicably to achieve common goals.

**Project / Programme Objectives:**

*List the main objectives of the project/programme.*

**Goal**

This project is specifically designed to *Building Coastal City Resilience to Climate Change Impacts and Natural Disasters*, with a particular focus on pro-poor adaptation actions that involve and benefit the most vulnerable communities in the city.

**Objective:**

The program will be conducted at 4 governance level, with the main objectives at each level are as follows:

**1. Village Level**

- (i). Enhancing coastal community capacity in developing and implementing Climate change adaptation actions and village information system including developing livelihood strategies, by also taking into account relevant local wisdom

**2. City Level:**

- (i). Enhancing local government and other city stakeholders' capacity in developing local climate change adaptation action plan (RAD API) and implement Climate smart actions

**3. Provincial Level:**

- (i). Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan, which in turn could foster better climate-related policy on climate financing and bottom-up planning.

**4. National Level**

- (i). Strengthening vertical coordination and collaboration between national and local government in climate adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government

**Table 4. Alignment with the Adaptation Fund Results Framework**

Project Objective Components	Expected Outcomes	AF Outcomes
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1. Village Level: Enhancing coastal community capacity in developing and implementing Climate change adaptation actions and village information system	Enhanced capacity of local actors in identifying, initiating, strengthening, and escalating community-based actions to address climate risk and natural disaster; including capacity in integrating the actions to village development plan	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level
	Enhancing local community adaptive capacity, including developing livelihood strategies to face climate change impacts and natural disasters	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level  Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas
2. City Level Enhancing local government and other city stakeholders' capacity in developing local climate change adaptation action plan (RAD API) and implement Climate smart	Enhancing local government and other city stakeholders' capacity in developing climate risk assessment and utilizing the results to develop local climate change adaptation action plan (RAD API),	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses
	Implementing Climate smart initiatives, including those fostering sustainable utilization of natural resources, with implementation and financing scheme that can be replicated and disseminated to broader audience	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas  Outcome 4: Increased adaptive capacity within relevant development and natural resource sectors

	Establishing city-level knowledge management platform	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level
3. Province Level Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan, which in turn could foster better climate-related policy on climate financing and bottom-up planning	Enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses
4. National Level Strengthening vertical coordination and collaboration between national and local government in climate adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government	Enriching SIDIK as risk assessment tools for coastal area based on local experience	Outcome1, Output 1: Risk and vulnerability assessments conducted and updated at a national level
	Strengthening vertical coordination and collaboration between national and local government in climate adaptation context	Outcome 7: Improved policies and regulations that promote and enforce resilience measures

### Project / Programme Components and Financing:

*Fill in the table presenting the relationships among project components, activities, expected concrete outputs, and the corresponding budgets. If necessary, please refer to the attached instructions for a detailed description of each term.*

*For the case of a programme, individual components are likely to refer to specific sub-sets of stakeholders, regions and/or sectors that can be addressed through a set of well defined interventions / projects.*

Project/Programme Components	Expected Outputs	Expected Outcomes	Amount (US\$)
1. Village Level  Enhancing coastal community capacity in developing and implementing Climate change adaptation actions and village information system	1.1.1. Village climate working group established and functioning in each of the 8 villages	1.1. Enhanced capacity of local actors in identifying, initiating, strengthening, and escalating community-based actions to address climate risk and natural disaster; including capacity in integrating the actions to village development plan	304.327
	1.1.2. Enhancing coastal community capacity in developing the village information system and implementing the ensuing climate change adaptation actions		
	1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, Sanitation, latter in, rain water harvesting , coastal embankment, etc.)	1.2. Enhancing local community adaptive capacity, including developing livelihood strategies to face climate change impacts and natural disasters	643.846
2. City Level			194.930

Project/Programme Components	Expected Outputs	Expected Outcomes	Amount (US\$)
Enhancing local government and other city stakeholders' capacity in developing local climate change adaptation action plan (RAD API) and implement Climate smart initiatives	2.1.1. City climate working group reactivated	2.1. Enhancing local government and other city stakeholders' capacity in developing climate risk assessment and utilizing the results to develop local climate change adaptation action plan (RAD API)	
	2.1.2. RAD API developed based on City Climate Risk Assessment and Climate Coastal Impact		
	2.1.3. Strategy to integrate CCA into local government planning processes (annual work plan or mid-term development plan of city) is developed		
	2.2.1 Innovative and collaboration adaptation actions are implemented in collaboration with private sector, Government bodies and NGO ( i.e. technology for main productive sectors, model on collaborative CCA program across coastal villages/ upstream and downstream villages); and also evaluated for future reference	2.2.1. Enhanced resilience of coastal community from the Implementing Climate smart initiatives, including those fostering sustainable utilization of natural resources, with implementation and financing scheme that can be replicated and disseminated to broader audience	<b>2.172.539</b>
	2.3.1 Climate change training and	2.3. Establishing city-level knowledge	<b>248.076</b>

Project/Programme Components	Expected Outputs	Expected Outcomes	Amount (US\$)
	<p>knowledge sharing conducted</p> <p>2.3.2 Knowledge product, Advocay material (i.e. lessons learned, research paper, newsletter) published and shared</p> <p>2.3.3 Local knowledge sharing platform established</p>	management platform	
3. Province Level Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan which in turn could foster better climate-related policy on climate financing and bottom-up planning	<p>3.1.1 Enhanced provincial capacity to develop RAD API</p> <p>3.1.2 appropriate strategy to integrate CCA into Provinciall government planning processes (annual work plan or mid-term development plan of city) is developed</p>	3.1 Enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan	<b>31.074</b>
4. National Level Strengthening vertical coordination and collaboration	4.1.1 Knowledge product in the form Handbook on how to use SIDIK for risk assessment at	4.1 Enriching SIDIK as risk assessment tools for coastal area based on local experience	<b>31.638</b>



Project/Programme Components	Expected Outputs	Expected Outcomes	Amount (US\$)
between national and local government in climate adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government	coastal city is published and shared. This handbook is targeted to be used by local government, NGOs and civil society organizations		
	4.2.1 Strengthened vertical coordination and collaboration between national and local government in climate adaptation context	4.2. Strengthening vertical coordination and collaboration between national and local government in climate adaptation context	<b>91.647</b>
5.Total Project/Programme Cost			3.718.077
6.Project/Programme Execution cost and ME cost			353.217
7.Project/Programme Cycle Management Fee charged by the Implementing Entity			55.771
<b>Amount of Financing Requested</b>			<b>4.127.065</b>

**Projected Calendar:****Project Duration:** 3 years (36 months)*Indicate the dates of the following milestones for the proposed project/programme*

Milestones	Expected Dates
Start of Project/Programme Implementation	November 2018
Mid-term Review (if planned)	Juni 2020
Project/Programme Closing	September 2021
Terminal Evaluation	October 2021

## PART II: PROJECT / PROGRAMME JUSTIFICATION

### **A. Describe the project / programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.**

Climate change has led to the rise of sea level and changes in rainfall patterns in Pekalongan City. The rainfall pattern in recent years has become more intense and occurs in a shorter period, which then leads to flooding. Flooding in northern part of Pekalongan City, either those caused by increased rainfall or sea level rise, have contributed to many interconnected problems. Extreme climate events like heavy rains, combined with sea-level rise have resulted in more frequent and more unpredictable floods that threaten populations' security and goods. Climate change is thus impeding Pekalongan City development. One example of this impediment is the decrease of agricultural land area in nine villages of Pekalongan city that reaches 73% between the period 2007-2016 due to the land being submerged in sea water and also high salinity level of the irrigation water. This condition has threatened Pekalongan City food security by reducing rice and other agricultural production.

This program is specifically designed to *Building Coastal City Resilience to Climate Change Impacts and Natural Disasters*, with a particular focus economic/livelihood, food security and environmental issues. The development of local climate change adaptation plans required scientific basis to corroborate and better understand the pattern of current and future of climate risk. This information is essential to create and develop an effective adaptation. Effective adaptation action should also be built on existing actions; adjusting and leveraging practices that are socially- and environmentally-friendly, while leaving practices that potentially cause adverse impact.

Another key to effective adaptation is it needs to be locally driven and to involve those most at risk. This notion thus highlights the importance of two key actors, the local government and community based organizations (Satterthwaite, 2010). The development of local adaptation actions then should not only consider the national policies but also local condition and characteristics. Having considered the above, employing a combined bottom-up and top-down approach, while simultaneously taking into account the current and future climate risk pattern, is considered as important for this program in developing an effective local adaptation action plan.

Bottom-up approach means that the development of local action plan should meet local needs and involve diverse actors by taking into account the local condition (human capacity, resource availability, local knowledge and practices, etc.). Top-down approach means that national actors play role in providing direction, guidance and resources for supporting local government in developing adaptation action plan that is in line with national development goals. This program will combine two approaches and facilitate interaction between national and local actors, in order to achieve better overall results. Combined approach is expected to become best practice and set out example on how to synergize national policies (RAN API) into all level of government (Province, City and Village). Following this approach, activities under this project

will then be designed and implemented at four governance level (National, Province, City and Village).

This proposed program will be focusing its work on economic/livelihood, food security and environmental issues. From legal perspective, these 3 issues are in line with resilience sectors in RAN API (specifically Cluster 1, 2 and 3) and with direction for improvement of communities' resilience in 2015-2019 National Mid-Term Development Plan (RPJMN). In addition to that, the combined approach at four governance level is in line with Law Number 23 year 2014 on Regional Government. Indicative activities at each level are explained below.

### Village Level

The main focus at village level is to strengthen the capacity of coastal community in developing village profile/village information system and adaptation action plan, on top of implementing the derived climate change adaptation action. The profile itself will be built upon participatory climate risk assessment conducted by the community. The project in village level will also stimulate the implementation of community-based adaptation actions that will be focusing mostly on livelihood context; how the community can adjust their conventional livelihood practices to be able to face climate change impact. The other focus will be on impact from climate-related disaster faced by the community, namely coastal flooding and erosion and sea level rise. Prior to implementing the actions, scoping and feasibility study will be undertaken for each prioritized actions to ensure its feasibility and potential effectiveness. Activities that will be undertaken at village level and their reasoning are provided in table below.

NO	ACTIVITY	BACKGROUND	TECHNICAL DETAILS	LOCATION
1	Preparation to develop climate working group	<p>Climate working group at village level will be called as Village Working Group. The formation of this group seen as important since they will play a major role in program implementation at village level. Additionally, their existence and involvement from the beginning of the program is expected as will draw wider community support, participation and buy-in towards the program.</p> <p>The group member will consist of representatives of different village group, to ensure they could represent the voice, needs and interest of different group within the village.</p>	<p>Each of the targeted villages (8 villages) will form 1 vilage working group. The member will consists of representatives from: community leader, local champions, women group, farmers group, youth group and also community member that could represent the voice of elderly, children and disable group.</p> <p>Their responsibility will include: take part in developing climate risk assessment, village profile, and village adaptation plan; support the development of village information system; assessing the pre-selected adaptation action; selecting the precise location for the action; and also communicate their village profile and adaptation plan during Development Plan Deliberation at sub-district level.</p>	8 villages (Degayu, Krapyak, Panjang Wetan, Panjang Baru, Kandang Panjang, Padukuhan Kraton, Bandengan and Pasir Kraton Kramat)

2	Regular/ coordination meeting	<p>Village working group meeting need to be conducted regularly to ensure program implementation at village level is align with the targeted objectives and done in timely manner. The meeting also needed to discuss any emerging issues during program implementation and search for the appropriate solution to address the issues.</p> <p>Regular meeting its also part of community village empowernt, by regular meeting community village could arise gender issue, climate adaptation problem sorlving and good government</p>	<p>Regular meeting will be done in monthly basis. The meeting time will mostly be at night, so that women representatives could attend the meeting (based on input during Gender FGD).</p> <p>On the third year of program implementation, it is expected that the groupd had been able to generate participatory fund for the meeting, so that the meeting cost is not budgeted under AF.</p>	8 villages (Degayu, Krapyak, Panjang Wetan, Panjang Baru, Kandang Panjang, Padukuhan Kraton, Bandengan and Pasir Kraton Kramat)
3	Workshop and training	Workshop and training are intended to equipped village working group on climate-related information and gender-responsive development; particularly those relevant to coastal area.	<p>Aside from basic climate- and coastal resilience-related information and gender-responsive development, village working group member will also receive a more technical training material. Among the more technical trainig are: participatory climate risk assessment and village profile development.</p> <p>Additionally, the village working and wider village community will receive information on Local Adaptation Action Plan of Pekalongan City (RAD API)</p> <p>In total, throughout the program period, each of the 8 targeted villages will receive 2 trainings and 3 workshops</p>	8 villages (Degayu, Krapyak, Panjang Wetan, Panjang Baru, Kandang Panjang, Padukuhan Kraton, Bandengan and Pasir Kraton Kramat)
4	Adaptation Action Implementation	<p>Based on observation, assessment and deliberation with local stakeholders, the agreed adaptation action at village level had been selected. This village level adaptation action will act as pilot project for action at city level.</p> <p>However, prior to implementation, the said action will be re-assessed on its feasibility to ensure its appropriateness. This re-assessment is done as part of adaptive management measure under the program.</p> <p>Among actions to be implemented are those related to coastal protection and alternative livelihood.</p>	<p><b>Vennamei Shrimp Aquaculture Pond</b></p> <p>In comparison to other aquaculture commodity (fish and crab), vennamei shrimp is considered as the most feasible aquaculture practices to be implemented in Degayu Village due to water quality and characteristics in the said area. As alternative livelihood, this practice is not intended to increase community income, but reduce a decrease in their income.</p> <p>At the moment, vennamei shrimp farming have been an ongoing practise in Degayu village, but the farmer's income from this practise is highly volatile since their farming method is still conventional and highly affected changing weather. Under this program, farmer will be equipped with adequate farming skill, method and equipment (seed, aeration fan, pond cover, bar</p>	locations in Degayu Village

		<p>screen etc.); lowering their economic vulnerability to climate change impact.</p>	
		<p><b>Bandeng Farm Pond</b>  Vennamei shrimp is considered as unsuitable to be bred in the other 7 villages. During proposal development process, Bandeng fish is agreed as the most potential commodity to be farmed in the 7 villages. Water quality and characteristics in those area are suitable for Bandeng farming. Bandeng farming have been the chosen alternative livelihood for Pekalongan coastal community for quite sometime. But in the past years, this livelihood is being left behind by them due to coastal flooding and low capital to start a new bandeng farm pond (the previous pond is inundated).</p> <p>Under this program, farmer will be equipped with adequate farming skill, method and equipment; lowering their economic vulnerability to climate change impact. As alternative livelihood, this practice is not intended to increase community income, but reduce a decrease in their income.</p>	<p>A total of 9 locations in 7 villages (Krapyak, Panjang Wetan, Panjang Baru, Kandang Panjang, Padukuhan Kraton, Bandengan and Pasir Kraton Kramat)</p>
		<p><b>Mangrove restoration</b>  Mangrove restoration will be conducted in 4 villages that has the highest inundated area. Existingly, bandeng and vennamei farm owned by the community have very little to no protection to coastal flooding; they area directly facing the sea.</p> <p>Aside for coastal protection, mangrove restoration thus also intended to protect eco-tourism site, as well as vennamei and bandeng farm located behind the mangrove belt. Reducing their risk of being inundated from coastal flooding. Accordingly the design of fish and vennamei shrimp pond will take account of mangrove belt that will be planted in the area; integrating mangroves into the design will increase the physical resilience of the coastline with natural and local-based structure intervention.</p>	<p>1000 mangroves in each of the 4 targeted villages (Bandengan, Kandang Panjang, Panjang Baru and Degayu)</p>

		<p><b>Reconstruction of individual sanitation facilities</b></p> <p>Due to recurring coastal flooding, most of community's individual latrine are unable to be utilized, while their septic tank are also submerged. Aside for fulfilling basic needs, their daily and monthly income were spent for reconstructing their house, leaving not enough fund to fix their sanitation facilities. A prolong condition of poor sanitation condition could potentially leads to health risk. Hence this program tries to decrease community's vulnerability from health sector by reconstructing individual sanitation facilities; their household toilet and septic tank. Reconstruction will be done to household that are located in a non-permanently inundated area.</p>	<p>25 individual sanitation facilities in each of the 8 targeted villages (Degayu, Krapyak, Panjang Wetan, Panjang Baru, Kandang Panjang, Padukuhan Kraton, Bandengan and Pasir Kraton Kramat))</p>
		<p><b>Construction of communal sanitation facilities</b></p> <p>Communal sanitation facilities will be used by household with housing condition that are permanently inundated, making it impossible to reconstruct their individual sanitation facilities.</p> <p>For area that are permanently inundated and directly facing the sea, the facilities will utilize floating toilet design, with floating biodigester system or combination biodigester and wetland system. While for other area, the constructed toilet will be a standar communal toilet that equipped with simple wastewater management system (communal septic tank, anaerobic filter or rotating biological contactor). Each of the facilities can serve between 20-30 household.</p> <p>Decision on which design will be implemented will be further assessed prior to action implementation, as part of the feasibility study. This assessment is done to ensure that the construction of the said facilities will not pose a further threat to the surrounding environment.</p>	<p>2 communal sanitation facilities in each of the 8 targeted villages (Degayu, Krapyak, Panjang Wetan, Panjang Baru, Kandang Panjang, Padukuhan Kraton, Bandengan and Pasir Kraton Kramat))</p>

The abovementioned activities are selected based on observation, assessment and consultation with stakeholders; where the stakeholders had also agreed on the selection. Despite the specific activities to be undertaken at village level had been identified in this proposal; however

scoping and feasibility study will remain to be conducted prior to activities implementation to ensure the said activities are still appropriate and feasible during the time it will be conducted.

## City Level

At city level, more emphasis is placed on increasing the capacity of local government bodies, universities and local NGOs in order for them to have the ability to develop local climate change adaptation action plan (RAD API). The development process will be facilitated by the Project Management Unit (PMU). The core steps in developing RAD API document will be translation and adjustment of RAN API content into local context. To provide scientific ground to the document, training on utilizing SIDIK to assess climate vulnerability and risk of the city will be conducted. The assessment result will then be a part of local context in RAD API and among the key considerations to develop the list of adaptation actions. Training will also be given on mainstreaming process of adaptation plan to local development plan. The training participants at city level will also involve village representatives. This is to ensure that all stakeholders will have the ability to evaluate and find synergy between RAD API and other relevant regional/local development plans. Furthermore, approach at city level would not only encourage community, but also private sector participation in implementing adaptation action, by exploring the potential of private sector cooperation in supporting local adaptation action. Promoting collaborative climate change adaptation actions, not only within program timeframe, but also in future time.

The collaborative adaptation actions that will be implemented in city level will be designed with implementation and financing scheme that will allow for replication and wider implementation, so that benefit derived from the program can be further shared after the program is ended, not only relying from program funding. Adaptation actions that will be implemented at city level will be focusing on:

- (1). Enhancing the resilience of main productive sectors through (i) aquaculture development (shrimp, fish, crab, seaweed) by introducing new technology and cooperate with financial institution in developing aquaculture scheme (ii) construction of coastal embankment with sediment/sand trap system. Aside from financial resources, one of the biggest challenges for aquaculture implementation in the targeted area is coastal flooding. Inundated aquaculture pond during coastal flooding had been a recurring event for the community; resulting in significant economic losses. Hence at city level, the construction of coastal embankment will not only serve the purpose of reducing inundated area by protecting the coastal part of Pekalongan City, but also protecting aquaculture location from flooding; reducing the potential of economic losses and maintaining the sustainability economic activity from aquaculture. The built embankment will complement national governance initiatives that at the moment are constructing embankment in Bandengan area. .
- (2). Introducing innovative latrine in flood prone area to reduce impact from water-borne disease that complemented with financing scheme
- (3). Developing and promoting community-based ecotourism. Despite its nature will be community-based, this ecotourism activity will falls under the responsibility of Pekalongan City Government considering that village does not have jurisdictional authority in the city administrative area. Yet the community will be the main actor in implementation and will work closely with city government officials on this matter.



Additionally, knowledge management platform will be established at city level; enabling information sharing between stakeholders and creating a transparent program implementation. Among knowledge product that will be produced are documentation of lessons learned, training materials, research paper, and advocacy materials.

A more detailed information on the proposed activities at city level is presented in table below.

NO	ACTIVITY	BACKGROUND	TECHNICAL DETAILS	LOCATION
1	Regular/co ordination meeting	City climate working group will have a monthly meeting in order to assure that program implementation at city level is align with the targeted objectives and done in timely manner. The meeting also needed to discuss any emerging issues during program implementation and search for the appropriate solution to address the issues.	<p>Regular meeting will be done in monthly basis. The meeting time will mostly be in the morning/afternoon, to allow government officials to attend the meeting in formal manner.</p> <p>Throughout the program period, a total of 36 meetings will be conducted.</p> <p>Among matters that will be discussed in the meeting are working group member and work plan, assessment on the existing city development plan, potential integration of city adaptation plan into local development plan and assessment on the pre-selected adaptation action at city level.</p>	City level
2	Seminar/ Workshop/ Training	Workshop and training are intended to equipped city working group on climate-related informatio and also how to develop climate-responsive and gender-responsive development plan	<p>Aside from basic climate- and coastal resilience-related information and gender-responsive development, city working group member will also receive a more technical training material. Among the more technical training materials are: Vulnerability Assessment, City Climate Risk Assessment, Climate Coastal Impact, Climate Adaptation Plan and CCA integration into government planning process. In total, throughout the program period, the city climate working group will receive 4 workshops and 3 trainings.</p> <p>Training on basic climate- and coastal resilience-related information will involve not only working group member, but also wider Pekalongan City stakeholders to build awareness and understanding on issues that are faced by the city.</p> <p>Another training/workshop that will be conducted at city level are leadership training for local champion and local government agency and collaborative adaptation actions across vilages. The leadership training is intended to equip local champion and city officials with adequate soft skill to continue the works after the proposed program is ended.</p>	City level

3	Preparation of mayor decree on city climate working group	Climate working group at city level will be legalized by Mayoral Decree so that the group has a legal binding in doing their works. The formation of this group seen as important since they will play a major role in program implementation at city level. Additionally, their existence and involvement from the beginning of the program is expected as will draw wider city community support, participation and buy-in towards the program.	<p>The city working group member will consist of representatives of local government officials, academicians/research institutions, media, and local NGOs. The involvement of people from these diverse background is to ensure they could represent the voice, needs and interest of different group within the city and provide different perspective in seeing the issue at hand.</p> <p>In the Mayoral Decree, the member will be stated by institution, instead of name, to ensure continual involvement in the event of job transfer.</p> <p>Among the responsibility of the City Climate Working Group are: develop City Climate Risk Assessment and City Climate Impact, support the development of RAD API, support the process of mainstreaming RAD API into local development plan, assessing the pre-selected adaptation plan and implementation location, and support the development of city-level knowledge management platform</p>	City level
4	Implementation of pilot adaptation measures	<p>Based on observation, assessment and deliberation with local stakeholders, the agreed adaptation action at city level had been selected. Adaptation actions related to alternative livelihood in this level is similar to those implemented at village level. This activity will still remain cost-effective in comparison to directly implement city-wide scale, since the village level implementation will act as pilot project to assess the suitability and obtain lessons learned. Allowing the proponent to learn from potential issues that could arise prior to extending the implementation to other area.</p> <p>The term pilot here is referring to financing scheme that will be implemented for actions related to alternative livelihood in 4 villages.</p> <p>Despite already being selected, prior to its implementation, the said action will be re-assessed on its feasibility to ensure its appropriateness. This re-assessment is done as part of adaptive management measure under the program.</p> <p>Among actions to be implemented are</p>	<p><b>Coastal embankment</b> Coastal embankment in the form of geotube will be constructed with a length of 900 m along the coastline of Degayu Village and with a height of 60 cm.</p> <p>This construction will protect eco-tourism site and aquaculture pond area from coastal flooding. Behind the geotube, mangrove belt will be planted as secondary protection while also acting as sand trap to restore the area's shoreline that are currently suffering from abrasion.</p> <p><b>Coastal embankment</b> Coastal embankment in the form of geotube will be constructed with a length of 500 m along the coastline of Kandang Panjang Village and with a height of 60 cm.</p> <p>This construction will protect PIM area and aquaculture pond area from coastal flooding. Behind the geotube, mangrove belt will be planted as secondary protection while also acting as sand trap to restore the area's shoreline that are currently suffering from abrasion.</p>	<p>900 m coastline of Degayu Village</p> <p>500 m coastline of Kandang Panjang Village</p>

		those related to coastal protection, alternative livelihood and reducing community's vulnerability from health aspect.	<b>Vennamei Shrimp Aquaculture Pond</b> Vennamei shrimp farming at city level will replicate and reflecting upon lessons learned from those implemented at village level, particularly in terms of the technical aspect.	15 location in Degayu Village
			<b>Bandeng/Nila Farm Pond</b> Bandeng/Nila farming at city level will replicate and reflecting upon lessons learned from Bandeng farm implemented at village level, particularly in terms of the technical aspect.  Despite the most appropriate commodity in Degayu is vennamei shrimp, but some community member still interested in developing Bandeng Farm Pond; and thus at city level, Degayu Village will still be included for Bandeng Farm Pond action.  The main difference will be on financial scheme for the aquaculture implementation. The farmers will be supported by capital in the forms of loan to start and run their business. The loan is expected as will elevate the technical aspect of Bandeng Farm Pond being implemented in the village, which at the moment is mostly conventional.	A total of 15 locations in 4 villages (Bandengan, Kandang Panjang, Panjang Baru, and Degayu)
			<b>Bandeng/Nila Farm Pond with Financing Scheme</b> This particular farm pond will implement a similar technical aspect with other bandeng/nila farm pond implemented at Bandengan, Degayu, Kandang Panjang and Panjang Baru. The main difference will be on financial scheme for the aquaculture implementation. The farmers will be supported by capital in the forms of micro loan to start and run their business. The loan is expected as will elevate the technical aspect of Bandeng Farm Pond being implemented in the village, which at the moment is mostly conventional.	A total of 15 locations in 4 villages (Krapyak, Panjang Wetan, Padukuhan Kraton, and Pasir Kraton Kramat)

			<p><b>Mangrove restoration</b> Mangrove restoration at city level will be conducted at PIM area. This activity is expected to complement geotube construction and strengthen coastal protection in the area. Furthermore, it will also protect bandeng farm pond, located behind the belt. Reducing their risk of being inundated from coastal flooding. Accordingly the design of bandeng farm pond in PIM area will take account of mangrove belt that will be planted; integrating mangroves into the design will increase the physical resilience of the coastline with natural and local-based structure intervention.</p>	70 mounds of mangrove in PIM (Kandang Panjang Village)
			<p><b>Eco-tourism</b> Based on observation, assessment and discussion, eco-tourism has a high potential to be developed in Panjang Baru and Degayu Village. At the moment, the potential eco-tourism spots in both villages are regularly visited by local community. However those locations have not been managed by the local government. So that the condition are considered improper as a tourism site. This program will rehabilitate the location and provide basic amenities so as it will be presentable as an eco-tourism site.</p> <p>Aside from providing basic amenities, to ensure the site is attractive enough for eco-tourism, protection of its condition is of essential; and hence the management will be driven to preserve environmental condition of the eco-tourism site and its surroundings. Accordingly, the site will be protected by mangrove belt in Panjang Baru village and combination of mangrove belt and also geotube in Degayu village. Based on preliminary assessment, the severity of coastal flooding in Panjang Baru is not as high as Degayu village, so that mangrove belt is considered as sufficient. Yet prior to implementation, re-assessment will be made on this action to ensure its effectiveness and appropriateness.</p>	Panjang Baru Village and Degayu Village
			<p><b>Reconstruction of individual sanitation facilities</b> Similar to implementation at village level, reconstruction of individual sanitation facilities will be done in area that are not permanently inundated. Reducing the risk of recurring sanitation issue in the area</p>	24 individual sanitation facilities in each of the 8 targeted villages (a total of 192 facilities)

			(submerged latrine and septic tank)	
			<p><b>Construction of communal sanitation facilities</b>  Similar to implementation at village level, construction of communal sanitation facilities will be done in area that are permanently inundated. For area that are permanently inundated and directly facing the sea, the facilities will utilize floating toilet design, with floating biodigester system or combination biodigester and wetland system. While for other area, the constructed toilet will be a standar communal toilet that equipped with simple wastewater management system (communal septic tank, anaerobic filter or rotating biological contactor). Each of the facilities can serve between 20-30 household.</p> <p>Decision on which design will be implemented will be further assessed prior to action implementation, as part of the feasibility study. This assessment is done to ensure that the construction of the said facilities will not pose a further threat to the surrounding environment.</p>	1 communal sanitation facility in each of the 8 targeted villages (a total of 8 facilities)
5	Knowledge management Forum	Knowledge management forum will serve a function as a media to share lessons learned from program implementation in different villages and in city-scale	<p>Knowledge management forum will be attended by village and city stakeholders that are involved in program implementation, while also inviting province and national actors to share relevant information and policies that could affect the city. Additionally, both actors' attendance would also serve the purpose of communicating lessons learned at local level to higher governance level.</p> <p>Throughout the program period, 2 knowledge management forum will be conducted</p>	City level
6	Development of knowledge product and advocacy material	Knowledge product need to be developed in order to regularly share the progress and benefit of the program to wider community. This knowledge product then will be translated into advocacy material that can be communicated gradually to city, province and national government	<p>PMU will document lessons learned and translating it into best practices paper, research paper and newsletter content. To maintain regular information are being shared, PMU will publish newsletter in tri-monthly basis.</p> <p>Lessons learned and research paper will then further utilized to develop 4 policy papers that mostly focusing on coastal adaptation action</p>	City level

7	City knowledge sharing platform established	City knowledge sharing platform is intended as the 'go to' platform for climate-related information at city level. Its existence is expected as will enable effective information sharing between stakeholders and creating a transparent program implementation.	Among knowledge products that will be produced from the program implementation are documentation of lessons learned, training materials, research paper, and advocacy materials that will not only build city stakeholders' knowledge, but also support policy-making process at city and higher governance level. These products will be shared and communicated at local, province and national level by the PMU.	City level
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### Provincial Level

Activities at provincial level are more focus in assisting the provincial team to develop climate risk assessment with village level as the smallest level of analysis, in which the assessment results will be the basis to develop RAD API. The provincial will undergo a series of training to equip them with the following technical skill and knowledge: SIDIK utilization, RAD API development by considering RAN API and city adaptation plan, translate and integrate RAD API into provincial development plan. These will be the basis to build a synchronize adaptation action between city, province and national. RAD API at province level that developed by taking into account the context of City's RAD API is believed as will promote the notion of climate-resilient development in city/district under their administrative region, by showcasing bottom-up planning and providing climate financing potential. A total of 6 trainings will be received by province government officials on the aforementioned aspects.

### National Level

At national level, the team will be focusing in strengthening vertical coordination and advocacy process by working closely with 2 national government bodies and secretariats in issue that will be elaborated as follows:

- (1). The Ministry of Environment and Forestry (MoEF) has developed a free web-based tool to calculate climate risk index known as SIDIK. This tool is highly beneficial for local government to assess their area risk index in an easy and user friendly manner. Yet the tool has a drawback in its inability to accurately calculating climate risks in coastal areas. Therefore, this program will support MoEF in refining the tool in order to improve its effectiveness and accuracy of its utilisation in coastal area. Building upon experience of using SIDIK at city level, a handbook will be developed on how to use SIDIK for risk assessment at coastal city area. This handbook will be communicated to MoEF and made available for local government, NGOs and civil society organizations.
- (2). Secretariat of RAN API had developed gap analysis of RAN API document. Building upon experience in translating RAN API at provincial and city level, the team will provide input to the secretariat on gaps identified during the translation process. This input will be beneficial for RAN API review process that is planned to be conducted in 2017-2018. Cooperation with Secretariat of RAN API will also be done to explore potential synergy between the national (RAN API) and regional adaptation actions (RAD API), that could prompt vertical collaboration between line ministries/government agencies and local governments for implementing adaptation actions that can be implemented at the

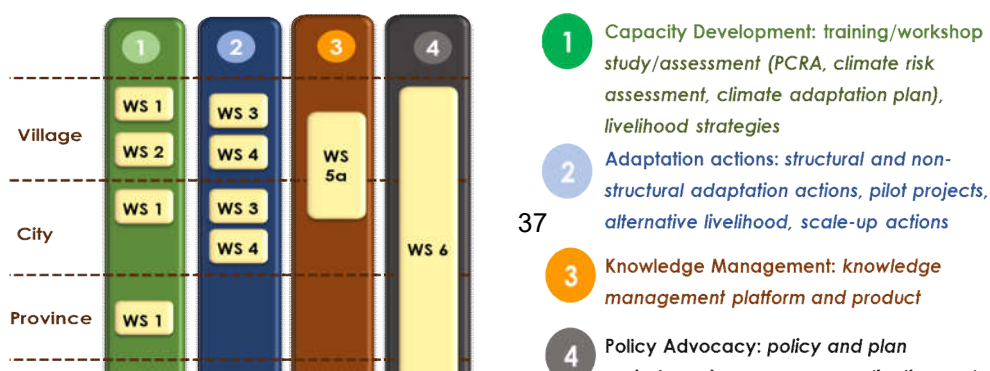
provincial, city or village level. Seeing Pekalongan City position as one of the pilot areas of RAN API, this such synergy and collaboration is seen as highly potential to be implemented.

In order to explore the potential vertical collaboration in implementing adaptation action, there will be a series of national dialogue as a consultative meeting/forum among national, province and city representatives. In the national dialogue, based on the existing national dialogue method and scheme, village representative might not be involved. However lessons learned from village implementation will be shared and communicated by PMU during the event. Furthermore, Pekalongan City representatives will represent village community's (as well as wider city stakeholders) voice and interests during the dialogue. To further strengthen the need for collaboration as well as highlighting the role of local level in climate adaptation context, a set of policy advocacy materials (i.e. policy paper on gaps in national policy, fiscal, regulatory and legal framework that built upon experience and findings at local level; lessons learned documentation, research paper) will be developed and communicated to relevant stakeholders. Engagement with national platform that advocating the same interest is believed as will provide an assistance to this advocacy process, and thus the team will actively engage and communicate with Indonesia Climate Alliance (ICA); a national platform comprises of different national institutions, research institutes and NGOs with interest on climate resilience issue.

In this program, policy advocacy will be a continuous and interconnected activity at 4 governance level; and it will be the main content of vertical approach. Creating a synergize development plan from village level up to national level while also fostering bottom-up advocacy process. Knowledge products and advocacy materials developed at local level will be communicated and advocated during development plan meeting at sub-district level, and subsequently advocated during meeting at city level; so that the relevant local issues and actions will be included in city development plan. Afterwards, the results will be further advocated at province and national level, creating a synergy of actions at 4 different government level. Furthermore, lessons learned obtained at village and city level will be utilized to build research paper and policy brief as bottom-up advocacy material that will also be communicated at province and national level.

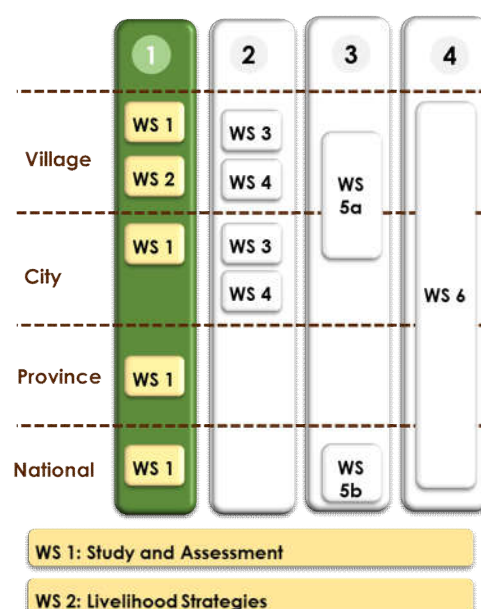
### Interconnection of Program Implementation at 4 Governance Level

Combination of bottom-up and top-down approach will be implemented within the proposed program to ensure a cohesive climate adaptation plan/program/policy and its implementation at all governance level. In general, the program will focus on 4 aspects, which are capacity development, adaptation action, knowledge management and policy advocacy. Figure 8 below shows the interconnection between actions at different governance level within the program, with brief information on each aspect.



**Figure 8. Interconnection of 4 Aspects at 4 Governance Level****Capacity Development**

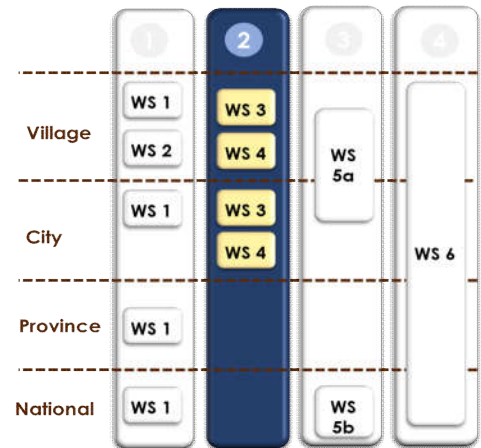
Focusing in equipping implementer and beneficiaries with sufficient knowledge and skill to address climate-related issue. Capacity development activities will be done at all governance level, with materials including how to develop, use and integrate climate risk assessment at lower governance level into risk assessment process at higher governance level and its relevant policy-making process. At village level, capacity development process will also include participatory assessment in determining the most suitable and appropriate alternative livelihood strategies for their area. This particular strategy will also be advocated to the city government for broader replication that complemented with financing scheme.





### Adaptation Actions

Focusing in implementing physical and non-physical interventions that are expected to assist Pekalongan City in reducing coastal-related climate risk. Considering the scope of program implementation as well as the fact that local autonomy in Indonesia falls under city government (instead of province/state government) and its lower governance level, hence adaptation actions for this proposed program will only be implemented at village and city level. Adaptation actions that will be implemented at both level will be depending on the corresponding climate risk assessment results. At city level, the content of climate adaptation plan (and subsequent adaptation actions) will not only consider city climate risk assessment results, but also input from participatory climate risk assessment at village level.



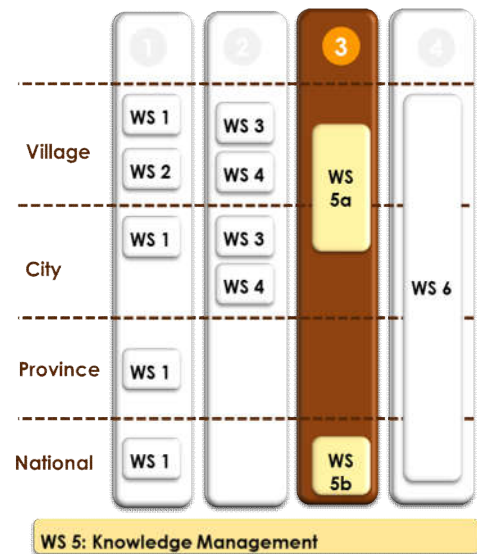
WS 3: Structural Adaptation Actions

WS 4: Non-structural Adaptation Actions

### Knowledge Management

Focusing in platform development for information dissemination and knowledge products development. This aspect is aiming to ensure an effective horizontal and vertical information sharing on climate-related issue. For the purpose of this program, knowledge management aspect is embedded in each of 4 governance level. Hence the relevant knowledge management activities are located scattered in each level.

At village level, knowledge management aspect will be focusing on collecting and documenting lessons learned at local level and also two-way vertical communication with city government on climate-related issue. Knowledge management platform will be developed at city level with information coming also from lessons learned at village level, in which the platform is deemed as will allow a more effective information sharing process. Among knowledge products that will be developed at city level are research paper and policy brief that will support policy-making process at city and higher governance level. At national level, knowledge management activities will be focusing on refinement of SIDIK as risk assessment tools that can be utilized by coastal area. The refinement itself will be utilizing lessons learned obtained from activities conducted at village and city level. Knowledge management activities

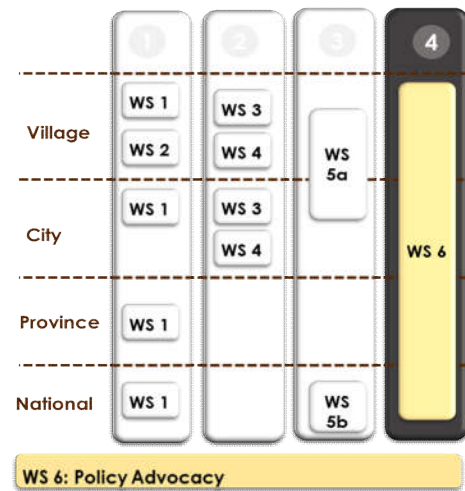


WS 5: Knowledge Management

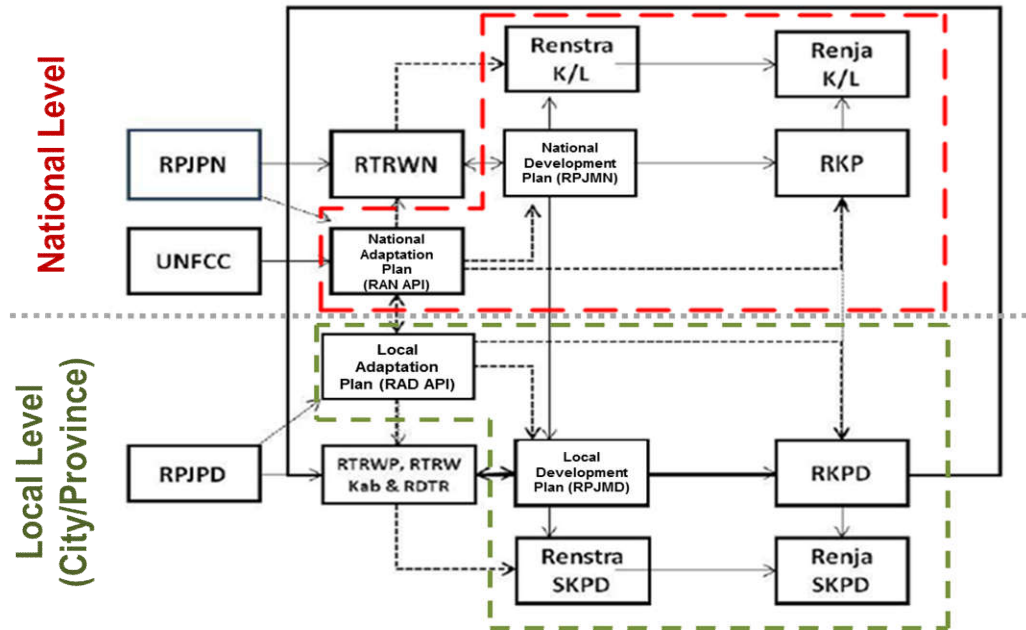
will not be implemented at province level since province government role in Indonesia governance system is mostly as the extension of national government, with no actual administrative area, since autonomy falls under the hand of city/district government. Yet, city government will continually feed climate-related information and the relevant adaptation plan to province government as key information for them to develop Central Java Province Climate Adaptation Plan which obligated to be developed by the national government.

### Policy Advocacy

Focusing in ensuring the integration of climate-related issue into government plan/program/policy. Policy advocacy will be a continuous and interconnected activity at 4 governance level within this particular program. Adaptation plan at village level will be mainstreamed to village development plan, and then submitted and advocated during development plan meeting at sub-district level. This plan will continue to be advocated during the succeeding development meeting at city level. Furthermore, the results will also be synchronized with adaptation and development plan at province and national level. Aside from the plan, lessons learned obtained at village and city level will be utilized to build research paper and policy brief as bottom-up advocacy material.

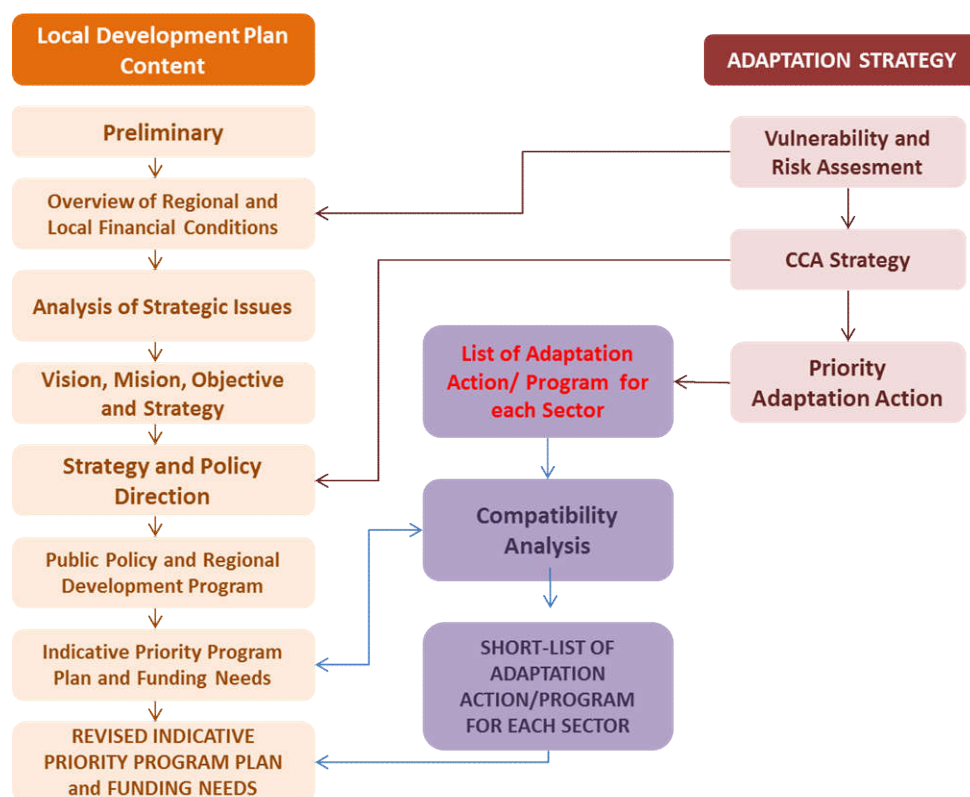


To better illustrate how the advocacy process can be done throughout the program, figure 9 below shows the applicable National Development Planning System in Indonesia. Village Adaptation and Development Plan will provide an input to local adaptation plan at city level which will then be integrated to city development plan. Moving vertically, city adaptation plan and development plan will subsequently feed information to shape province adaptation and development plan. Considering their role as national government extension, provincial adaptation and development plan will also be influenced by policy at national level. On the other hand, city government also has the ability to directly feed information to national government by providing sound lessons learned in the form of policy brief. For this particular program, the city government will provide policy brief which showcasing lessons learned from development and implementation process of coastal adaptation plan that at the moment still lacking in Indonesia, including outlining how coastal characteristics can be integrated into SIDIK.



**Figure 9. National Development Planning System**

Meanwhile figure 10 shows how the local government could incorporate climate adaptation plan into their development plan. This scheme would inform the PMU on how to design the best approach for advocacy. Climate adaptation strategy and plan would provide different perspective to local government in formulating their local development strategy and plan, in addition to the conventional approach which often only considering local and regional economic perspective.



**Figure 10. Potential Scheme to Integrate Climate Change Adaptation into Local Development Plan**

**B. Describe how the project/programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project / programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy of the Adaptation Fund.**

The program implementation will generate economic, social and environmental benefits and contribute in improving gender equality, women's empowerment and meet the targeted adaptation needs of women and men. This is marked by the implementation of various consultations with stakeholders at all stages of the project / program cycle in a gender responsive manner and paying attention to gender equality. Therefore these benefits came not only from introducing alternative livelihoods and implementing adaptation actions, but also from implementing the whole course of the program and from various actions mainstreaming gender at every stage of program implementation.. It will bring about and promote a set of innovations that will help improve the lives of the most vulnerable communities and encourage the empowerment of women. In general, benefits that can be obtained from this program including protection of the livelihoods assets of coastal communities, sustainability of ecotourism, assist in increasing access to financial institution and reducing impact from water-borne disease.

The program framework is formed in a way that could ensure broader Pekalongan City community could reap the benefit from program implementation. At village level, the program

aims to strengthen coastal village resilience and assist the community in addressing coastal flooding issue. The specific targeted beneficiaries at this level will be the vulnerable coastal community in 8 coastal villages. Their vulnerability emerge due to the fact that they are threatened by climate change impact in the forms of coastal flooding, while on the other hand they do not have the adequate capacity to address the issue since they live in poor condition and low basic services. Not to mention the fact that local government did not have enough resources to support them in addressing the issue. Combination of those conditions places them at high risk to coastal flooding. Participatory approach being employed in the program will ensure the fulfillment of representatives of both women and men in consultation at all stages of the project / program cycle and community's opinion and interests are taken into account. The village working group will be comprised of representatives from women groups, most vulnerable groups (included here is community member that could represent the voice of elderly, children and disable groups) and community representative from different socio-economic level. The planned adaptation actions, including alternative livelihood will be designed by considering their needs and interests. To further ensure equitable distribution of benefits, an assessment on social impact and the relevant management plan will conducted during adaptation action prioritization process.

While at city level, the program tries to provide a broader impact by not only targeting direct beneficiaries in the forms of people that involve in pilot project implementation location, but also indirect beneficiaries which are the wider Pekalongan City community through advocating and fostering a climate-resilient development plan and action plan.

For the purpose of program design, identification had been conducted to assess the existence of indigenous community in the intervention area. The result shows that community resides within the geographical scope of the proposed program are local and came from similar ethnicity; where they also have a well-established social norm. Hence there is no indigenous people can be identified.

The program will also focus in strengthening local government's capacity in developing and mainstreaming climate change adaptation plan to local development plan and spatial plan by paying attention to the gender aspects in it. This focus is deemed as will generate valuable lessons in building gender-responsive coastal resilience. This benefit will not only be acquired by Pekalongan City but also other local government facing similar climate change-related threats through knowledge sharing mechanism.

## Capacity Development

Capacity development activities being conducted throughout the program will provide social, economic and environmental benefits and improving gender equality and empowering women related to climate change for the vulnerable communities in particular, and the city in general

- Village Level

Capacity development activity at village level will be mostly done in the form of training and awareness building that are focusing on strengthening coastal community's capacity in climate-related knowledge as well as planning, implementing and monitoring village adaptation plan. These activities will introduce new knowledge that intending to stimulate behaviour changes. For the local environment this would mean less adverse environmental impact from anthropogenic activity as well as an opportunity for promoting new ecosystem services (e.g. coastal conservation activity) and increasing social capital. The community thus will obtain social benefit in the form of improved knowledge and capacity to better address climate-related issue which in turn will increase their adaptive capacity to climate risks; and also environmental benefit that derived from behavioural changes. Meanwhile the economic benefit comes as an indirect impact of capacity development at village level, particularly from alternative livelihood training that is aimed to increase the coastal population income. The training and awareness building also will raised some gender issues related with the climate change, including the impacts of climate change on women, Women's potential to become effective change actors or agents related to climate change adaptation Knowledge and expertise that can be utilized in adaptation strategies. Challenges of women's decision making, including for the management of important resources to meet the needs of their lives and their families. The vulnerable groups (including women) will be trained and equipped with new skills; and open up new employment opportunities for them.

- City and Provincial Level

This program will provide social benefit to the local government by enhancing their capacity to develop a participatory gender responsive and sustainable local development plan that incorporate climate change context; fostering a better institutional framework for climate-related planning and thus creating a ripple effect in building a more resilient coastal city. The existence and implementation of this plan will assist them in better allocating resources (both in terms of monetary, physical and human resources), including improving public services to vulnerable people. Often times, resources allocation done by the local government was not on target due to minimal information, especially when trying to synergized vertical planning between city and provincial government; resulting in an ineffective not on-target resource allocation. Implementation of this program is expected as will remedied these previous practices, fostering a better and more synergized planning, and also a more effective and on-target resource allocation.

At city level, social benefit will also be obtained from the establishment of local knowledge management platform that enable information sharing (including technical information and gender issues) between stakeholders. As one of the member of the knowledge platform, local NGO and community-based organizations will also gain social

benefit from this program since they will receive technical training that will be useful for their future operational activity in the area.

### **Advocacy**

Advocacy conducted at national level has the potential to promote economic benefit for the city by synergizing city adaptation plan (that built upon village level context), provincial adaptation plan and national adaptation plan; open-up city opportunity to tap funding access from the national government budget. For national government itself, this synergy would enrich their existing information on climate-related issues at local level and also set example for vertical coordination mechanism to other RAN API pilot areas

### **Potential Adaptation Actions**

- **Village Level**

Potential adaptation actions at village level will be focusing on addressing impact from climate-related disaster faced by the community, namely coastal flooding, erosion, sea level rise and changes in sea water properties. Among the potential actions and their corresponding benefit are:

- Promoting the cultivation of Vennamei shrimp and its cultivating method to local fishermen in 2 villages that have shrimp as their main commodities. This species is known for their high adaptability to changes in their environment and high tolerance to diseases so that they are deemed as suitable for Pekalongan City coastal area that is threatened from climate change impact. Altering from the existing species to Vennamei shrimp will provide economic benefit to the fishermen by reducing the potential losses from failed harvesting due to shrimp's inability to grow in the changing sea water properties; and thus increasing their income.
- Integrating mangrove into fish pond design and development in order to increase the physical resilience of the coastline with natural and local-based structure intervention will be done in 8 targeted villages that are prone to coastal flooding. Mangrove in this design will generate environmental benefit by acting as sediment trap for coastal erosion protection (from prevailing wind) and water purifier; hence creating a more suitable environment for fish pond that will be located behind the mangrove layer. Additionally, mangrove will also act as a natural barrier to protect coastal environment and community from coastal flooding. All of this environmental benefit would in turn create economic benefit for the coastal community by increasing fish production from better water quality and also generate income from mangrove, as well as reducing economic losses and burden due to physical (including damage to fish pond) and environmental damage from inundation/coastal flooding.
- Installing individual/communal latrine to address sanitary issue, including reducing the risk of water-borne disease. Due to permanent inundation, some household are suffering from inoperable latrine, hence open defecation in body of water can be found in some area. The open defecation habit also driven by the

community's economic condition which majority at low level, and thus often do not have individual latrine. The community had indeed provided with communal latrine in the past. However these facilities are also deemed as inoperable due to inundation as well as low level of maintenance. The communal installation will be installed in public facilities/village offices to serve internal purposes and community purposes (if possible); while individual installation will be installed in some individual household (as pilot implementation) in 8 targeted villages. To complement this latrine, a communal waste water management installation will also be built to prevent water pollution from latrine effluent. Both the latrine and waste water installation will be designed to suit with the area's characteristics that at risk from inundation, but still take account on the ease of access and maintenance for the community so that the facilities will be well maintained throughout the time and continually benefit the community.

- City Level

Potential adaptation actions at city level will be focusing on addressing climate change impact at city scale, in which the potential actions will be designed with implementation and financing scheme that allow for replication. Among the potential actions and their corresponding benefit are:

- Aquaculture development by promoting new and more adaptive main commodity's species as well as fostering cooperation with financial institution for the said development. Cultivation of Vennamei shrimp and its cultivating method will be promoted to fishermen in 2 villages (different villages from the one at village level) with shrimp as their main commodities. This model can be replicated in future time by other coastal villages in Pekalongan City. From this action, the fishermen will not only gain economic benefit from the increases of shrimp production but also from the introduction of financing scheme that will provide them with soft loan to further develop their farm/pond. From city perspective, the increase of fish production will provide economic benefit in the form of the increases of City's Gross Domestic Product (GDP), particularly from fisheries sector; and also social benefit from stronger food security.
- Construction of coastal embankment in 2 flood-prone villages with sediment/sand trap system in combination with planting mangrove as coastal green belt will functioned as coastal protection from flooding, erosion and sea level rise. The mangrove will also be beneficial in creating a suitable environment for fish farming that will in turn increase fish production.

From environmental perspective, the existence of coastal embankment and mangrove is expected as will reduce inundated area and the subsequent public infrastructure damage within the city; and thus reduce economic cost from having to rehabilitate/repair the damage. Aside from reducing the inundated area, coastal embankment will also serve a purpose in protecting eco-tourism site and aquaculture area being proposed in the program. Meanwhile the eco-tourism



development will provide alternative livelihood for the community who will be involved in the eco-tourism management and day to day activities, as well as fostering environmental protection within the site. Other economic benefit from this action is contributing to the increase of city's income from fisheries sector.

- Building latrine in flood-prone area to reduce impact from water-borne disease. Due to its low economic level, some part of coastal population in the 8 targeted flood-prone villages is not equipped with adequate latrine, so that they often use body of water to serve these purposes and concurrently raise the potential for water pollution. This action will provide social and environmental benefit by providing the community with suitable individual and communal latrine that will in turn reduce the potential for environmental degradation. The difference between latrine construction at city level with those implemented at village level lies on the introduction of financing scheme at city level. The financing scheme will be in the form of micro loan managed by local financial institution. This such scheme has been implemented in Semarang City, so that the program PMU and Pekalongan City government could learn from their lessons learned.

### **Alternative Livelihood**

Alternative livelihood will be introduced in this program to reduce coastal community's high reliance to their existing livelihood which has the potential to be highly affected by climate change impact, and also to provide additional income for those who currently live in low level economic income. Mangrove honey production and eco-tourism are 2 types of livelihood that will be fostered by this program.

- **Village Level**

At village level, the introduction of mangrove honey production will not only provide economic benefit from creating additional income for those who lives in low economic level (including women-headed household that has limitation for livelihood options in comparison to men-headed household), but also social benefit to the community by opening up their knowledge on other beneficial activities that can be exercised in their environment. Meanwhile environmental benefit from these alternatives livelihood came from its character that fostering environmental protection within the site. In order to maintain the yield of mangrove honey, the mangrove site should be preserved.

- **City Level**

This new livelihood relies heavily on the existence of mangrove belt which for city level has a high environmental value by providing coastal protection. Environmental benefit could also be obtained from the introduction and management of eco-tourism. To ensure the site is attractive enough for eco-tourism, protection of its condition is of essential; and hence the management will be driven to preserve environmental condition of the eco-tourism site and its surroundings. At the moment, the existing site can be considered as unkempt despite its potential as tourism site. Having the site dedicated for eco-tourism will drive the community and government officials to preserve its environmental condition. Other benefit arising from these new livelihoods is its potential to contribute in

increasing Pekalongan city's income from fisheries and tourism sector as well as provide job opportunity for the community.

From the abovementioned activities and benefits, the vulnerable groups that will gain benefits from this program are encompassing:

- (i) **Flood-prone household**  
Data recorded in 2016 shows that 9300 households located in the targeted 9 villages are categorized as prone to coastal flooding. These households will receive direct socio-economic and environmental benefit from the program since they will be the core subject for project interventions; not to mention how they will receive knowledge enhancement from their involvement in series of trainings and workshops.
- (ii) **Fishermen, farmers and fishpond farmers**  
In 2014, 4.65% Pekalongan City population works in Agriculture, Forestry and Fishery sector. This percentage represents over 13,700 people. For these people whose works are highly influenced by climate variability, this program will assist them in creating a livelihood strategy that is more resilient and sustainable; fostering a potential economic benefit for them
- (iii) **Women-headed household, women, children and elderly**  
From approximately 87,000 population of 9 villages that become the geographical scope of the program, around 50% of the population are women, including women who act as the head of their household. This program will assist this specific women group by providing alternative livelihood to increase their income as well as possible adaptation actions they are able to implement themselves. Meanwhile children and elderly are accounted for around 29% of the total population of Pekalongan City. As vulnerable group with limited capacity, children and elderly will be benefited by the creation of a coastal resilient environment that takes account of their needs during the development process.

To avoid, mitigate and reduce the potential negative impacts resulting from the program activities, an environmental impact study (or assessment depending on the project scale) will be conducted early in the project preparation stage as part of scoping and feasibility study.

Program Benefits		
Type of Benefit	Baseline	With/at the project completion
<b>Social</b>	<ul style="list-style-type: none"> <li>Poor adaptive capacities</li> <li>Lack of mechanism for disseminating proven strategies to adapt to risks has led to relatively high fatality rates, disease incidence and food security, especially for vulnerable people (child,</li> </ul>	<ul style="list-style-type: none"> <li>New capacities acquired by populations on coastal protection and aquaculture</li> <li>Improved food security</li> <li>Leverage on lessons learnt on coastal management and adaptation to climate change</li> <li>Improved adaptive capacity through a greater awareness</li> </ul>

	<p>elderly and women-headed household)</p> <ul style="list-style-type: none"> <li>• High exposure to hazards can be considered as co-drivers of poverty and compounded social problems such as, disease, sanitation, food security issues, etc</li> <li>• Slow onset event such as sea level rise and droughts have affected the social well-being and cohesion of local communities and reduce their ability to cope</li> </ul>	<p>of climate risks and adaptation options at the community and city level.</p> <ul style="list-style-type: none"> <li>• Strengthening social capital and capacity development to protect the community and surrounding area from disasters, fatality rates, diseases and food security threat</li> <li>• Increased resilience of coastal city and its communities, ecosystems and livelihood</li> <li>• Coastal city resilient planning, infrastructure and services contribute to social well-being</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>• Economic losses, physical infrastructure loss and also loss or disruption to livelihood options</li> <li>• Low cost-effectiveness of investments in the main productive sectors</li> <li>• Continuous decline in populations' revenue</li> </ul>	<ul style="list-style-type: none"> <li>• Improved institutional framework and aspect, improved communities and physical and natural assets, and also more resilient ecosystems and livelihoods</li> <li>• Revival of the economic activity</li> <li>• Improved food security and promotion of urban agriculture, changes to resource management, and identification of alternative livelihoods.</li> <li>• Capacity development of urban poor / women to gain new skills and employment opportunities.</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>• Abrasion/ coastal erosion</li> <li>• Mangrove degradation</li> <li>• Degradation of the vegetation</li> <li>• Land salinization/salt water intrusion</li> <li>• Ecosystem degradation and increased waste production lead to</li> </ul>	<ul style="list-style-type: none"> <li>• Decreases in climate-induced environmental degradation and losses, and improved planning and preparation for disasters</li> <li>• Promotion of ecosystem-based adaptation in the urban environment, leading to environmental benefits</li> <li>• Rebuilding of coastal belt and protection against</li> </ul>

	health issues especially in poor urban communities	coastal erosion by sediment trap method <ul style="list-style-type: none"> <li>• Rebuilding the vegetation</li> <li>• Protection of fishpond fields against salinity and flood by sediment trap method</li> <li>• Reduced adverse impact from anthropogenic activity through changes to coastal zoning and waste management e.g. community-based waste reduction and recycling schemes and energy efficient building construction techniques.</li> <li>• Enhanced resilience of urban poor communities</li> </ul>
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**C. Describe or provide an analysis of the cost-effectiveness of the proposed project/ programme.**

**component 1** focuses on enhancing the knowledge and awareness of village communities on climate change, environmental and gender issues. Village communities involved from the planning stage through Participatory Climate Risk Assessment, develop climate action plans into implement adaptation actions, that activities is expected to increase ownership of adaptation action program and guaranteeing the sustainability of the process after the program is closed.

**Component 2** focuses on two main activities on mainstreaming of climate change at the city level and implementing adaptation action for city scale thus leveraging best practice adaptation action from village level through operationalizing the policy and planning processes for coastal adaptation action such as coastal embankment, alternative livelihood, sanitation, latrine etc. The benefits of the activities are expected to reach over 1,515 individuals across 8 village and the indirect beneficiaries will reach 60,622 population in 8 villages. across the 6 selected atolls during the course of the project. The impact of components 2, 3, 4 will have indirect beneficiaries for all pekalongan citizens 301,870 populations

**Component 3** will focus on mainstreaming climate change at the province level, the goals of this mainstreaming in province level is linkage pekalongan city to get support both in the program and funding from the province while expanding adaptation planning in all cities and districts in the province of Central Java

**Component 4** Strengthening vertical coordination and collaboration between national and local government in climate adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government

Bintari Foundation had conducted Loss and damage studies by taking a sample of North Bandengan Village in North Pekalongan, concluding that loss and damage per household in the Bandengan Village is USD 1,800 / year. The indicators for Loss used are The loss of paddy field, Disable toilets, Unoccupied houses, Disable wells and indicators for damage are Decreased income, Increased domestic and services expenditure, Fragile Houses. The number of households in the 8 target villages (north pekalongan) of the project is 11,065 HH, so the potential loss if not doing anything is 19,917.00 / years. The expected benefits after this project end is to prevent a L&D or decrease in income of no more than 10%

Expected result	Output	Cost-effectiveness (assessment of alternative approaches)
<b>1 Village Level</b>		
1.1 Enhanced capacity of local actors in identifying, initiating, strengthening, and escalating community-based actions to address climate risk and natural disaster; including capacity in integrating the actions to village development plan	1.1.1 Village climate working group established and functioning in each of the 8 villages  1.1.2 Enhancing coastal community capacity in developing the village information system and implementing the ensuing climate change adaptation actions	Project Management Unit (PMU) of this program will work closely with Pekalongan city team in program implementation at village level, in which the city team will play a major role at this level. As part of the city team, the local NGO that has been working in the targeted area will act as the spearhead for establishing village working group and delivering the series of training/workshop. This division of responsibility will ensure effective allocation of financial and human resources
1.2 Individual and community livelihood strategies strengthened to face climate change impacts, including variability	1.1.3 Agreed adaptation action in each village implemented (i.e. mangrove restoration, supporting farmers group in fish varieties that tolerant to high salinity, Sanitation, latterin, coastal embankment, etc.)	Drawing community support and involvement (in the form of village working group) in arranging village adaptation plan and development plan will reduce the costs since the proposed actions will be on-target and as needed. Thus will increasing the ownership of all planning document developed and implement adaptation actions
1.3 Increase adaptive capacity of local community, by also taking local wisdom into account		Alternatively, if actions are implemented without calculating risk assessment and the implementer is not equipped with training, the end result can be more

		<p>costly; unnecessary actions may be implemented which may not assist in addressing the targeted risk</p> <p>Planning arrangement without involving the local people will make the low level of community participation in implementing climate adaptation actions</p> <p>This proposed program will select the implemented actions based on scenario, scoping study and feasibility study. This process will result in better climate adaptation actions that suitable for the area's risks and characteristics. PMU will work closely with city team to deliver technical support to the village working group in assessing and selecting adaptation options that are cost-effective and have the highest impact.</p> <p>Drawing community support and involvement in selecting the adaptation actions will be a cost-effective mechanism since the proposed actions and its corresponding budget and man power allocation will be on-target and as needed. This approach, along with assigning the spearhead role to the local NGO will also ensure program ownership and subsequently the maintenance of the interventions after the program ended.</p> <p>Alternatively, actions that based solely on local climate wisdom or typical development may be selected and implemented as the actions, however it will not target the most vulnerable areas and people. Not to mention that the</p>
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		particular action will not be sustainable
<b>2 City Level</b>  Enhancing local government and other city stakeholders' capacity in developing local climate change adaptation action plan (RAD API) and implement Climate smart initiatives	2.1.1	City climate working group reactivated
	2.1.2	RAD API developed based on City Climate Risk Assessment and Climate Coastal Impact
	2.1.3	Strategy to integrate CCA into local government planning processes (annual work plan or mid-term development plan of city) is developed
	2.1.4	Innovative and collaboration adaptation actions are implemented in collaboration with private sector, Government bodies and NGO ( i.e. technology for main productive sectors, model on collaborative CCA program across coastal villages/ upstream and downstream villages); and also evaluated for future reference
	2.1.5	Climate change training and knowledge sharing

The project pursues a participatory and integrated approach where community, local government, university, NGO, and private sector work together to develop adaptation action plan (RAD API) and integrate it into local development. This approach reflects a more sustainable way and will be more cost-effective especially if considering long-term time scale. A city climate working group that comprises of the abovementioned city stakeholders had previously formed in Pekalongan City, yet the said team is not active in the past year. The first action that will be conducted at city level under this program is reactivating the working group.

Activating and optimizing the role of city team in this program is deemed as cost-effective since they already have basic knowledge on climate change and the relevant issues and assessment, so that the team does not has to be trained rigorously on basic matter.

As part of the city team, local government will be equipped with skills to integrate adaptation action and planning to their city development plan (RPJMD/RKP). This integration is considered to be cost-effective measures since it will ensure that there will be budget allocation for adaptation actions that will not be funded under the

	<p>conducted</p> <p>2.1.6 Knowledge product, Advocacy material (i.e. lessons learned, research paper, newsletter) published and shared</p> <p>2.1.7 Local knowledge sharing platform established</p>	<p>program but included in the RPJMD /RKP (including integration of city-wide replication/scaling up of adaptation actions funded by the program); the program thus can focus in the most prioritized actions in the prioritized area. Furthermore, the integration would also allow M&amp;E activity for actions undertaken under the program to be included in the city development plan. Hence this city-level engagement will ensure that local adaptation action will be adequately supported in long-term.</p> <p>From their experience and acquired knowledge and skill during risk assessment development process, the local government officials can use this approach for periodical M&amp;E activity of the city development</p> <p>This proposed program will select the implemented adaptation actions based on scenario, scoping study and feasibility study. This process will result in better and appropriate climate adaptation actions.</p> <p>Technical support will ensure that options with the highest resilience impact will be selected, as well as options that foster sustainable utilization of natural resources. The selected options should be complemented with implementation and financing scheme that can be replicated and disseminated to broader audience. This process of selecting on-target actions that have the highest impact will ensure the effectiveness of the selected</p>
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		<p>actions in addressing climate change impact.</p> <p>The type of adaptation actions conducted in village level are similar to those that will be implemented at city level, particularly on aquaculture/farm pond, mangrove restoration and construction of sanitation facilities. This similarity is due to the fact that actions implemented at the targeted village will be treated as pilot measures for city-wide replication, allowing for evaluation on the implemented pilot scheme. This piloting approach is seen as cost-effective approach rather than implementing city-wide scale directly. This approach will assist in identifying weaknesses and strengths arise from the pilot process; where the weaknesses can be addressed and the strengths can be amplified for the purpose of city-wide replication.</p> <p>Alternatively, climate change adaptation and DRR planning activity can be implemented but in an unsustainable way and with a limited vulnerable target group (where the activity may not be suitable in future time since calculation will only be made on current risk)</p>
<b>3 Province Level</b>  Enhanced provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province	3.1.1 Enhanced provincial capacity to develop RAD API  3.2 appropriate strategy to integrate CCA into Provincial government	Provincial government have limited authority on activities conducted at city level, yet they play significant role in vertical coordination and conveying national budget allocation for climate-related

development plan, which fosters better climate-related policy on climate financing and bottom-up planning; and in turn driving cities and districts (particularly Pekalongan City) towards a more climate-resilient development	planning processes (annual work plan or mid-term development plan of city) is developed	<p>program/activity (provincial government responsible for one national budgeting channel to city). Considering this role, the program will not touch physical development at this level, merely capacity development and advocacy process. Thus activity at this level will be focusing on building provincial officials' knowledge on climate risk assessment so that they could develop risk assessment at province scale.</p> <p>This assessment and the corresponding RAD API will be the basis to build a synchronize adaptation action between city, province and national. Mainstreaming climate change adaptation and resilience into Central Java Province development plan could in turn foster better climate-related policy at provincial level and bottom-up planning. This approach is deemed as a cost-effective and resource-effective approach at provincial level to achieve the targeted objectives of the program</p> <p>Alternatively, climate change adaptation and DRR planning can be implemented without considering the city's/district's characteristics and needs, however the results will be most likely unsustainable</p>
<b>4 National</b>  4.1 Strengthening vertical coordination and collaboration between	4.1.1. Knowledge product in the form Handbook on how to use	SIDIK has significantly help cities and regencies in developing climate risk assessment. However

<p>national and local government in climate adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government</p>	<p>SIDIK for risk assessment at coastal city is published and shared. This handbook is targeted to be used by local government, NGOs and civil society organizations</p> <p>4.1.2. Strengthened vertical coordination and collaboration between national and local government in climate adaptation context</p>	<p>SIDIK has drawbacks when being used to asses coastal city, resulting in an inaccurate assessment, which could consequently leads to the implementation of action that considered as maladaptation</p> <p>Since SIDIK cannot accurately assess the vulnerability and risk area with coastal characteristics, hence adjustment is needed when using SIDIK in Pekalongan City so as appropriate coastal resilience/adaptation actions are developed</p> <p>SIDIK adjustment for coastal area based on experience from Pekalongan City is expected as will provide valuable lessons learned for other Indonesian coastal cities that intending to use SIDIK. Dissemination of this lessons learned is deemed as more efficient and cost-effective by developing SIDIK Handbook specifically for coastal city that accessible for coastal cities throughout Indonesia, rather than through knowledge sharing forum or training solely which often only attended by limited cities/representatives.</p> <p>Yet this handbook development does not necessarily means the materials will not be shared in such forum and trainings. This program will collaborate with national level platform in advocating climate resilience issue (ICA), including advocating lessons learned drawn from local experience, in which the handbook is amongst them.</p>
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		<p>To date, adaptation action often implemented in silo manner by each level of government, so that the adaptation actions are not synchronized. At national level, the project is aiming to foster a stronger vertical coordination and collaboration between national and local government in climate adaptation context to make the local adaptation action synchronized with adaptation plan at the higher level of government. This objective is in sync with the line of work of the national platform that always thriving to foster bottom-up planning process in climate change context; connecting local experience with policy at different level of government.</p> <p>Having considered the similar objective, thus advocacy through national platform engine is deemed as the most cost-effective approach to foster vertical coordination. To date, the national platform itself is an active platform and had provided different climate resilience-related input to different line ministries in Indonesia. Riding on this platform is believed to more cost-effective in comparison to conducting the advocacy process on our own.</p>
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Activities proposed in the proposal are expected to be completed in three-year period. The first year will be program preparation stage with activities that are mostly intended to strengthen local stakeholders' (including community) awareness and understanding on climate-related issue and also build their ownership on the program. Key studies and assessment conducted on this stage, not only will serve the purpose of building stakeholders' knowledge and awareness, but also ensuring that the proposed actions will not leads to mal-adaptation and further jeopardizing Pekalongan City sustainability. The studies and assessment is expected as will be completed in 6-months time-frame.

Afterwards, the program will focus in actions implementation. This arrangement is believed as will ensure the program to be completed in timely manner.

**D. Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.**

**I. This proposed program is consistent with the following institutional and policy framework and commitment at National Level:**

**1. First Nationally Determined Contributions (NDC) Republic of Indonesia**

The document stated how the Government of Indonesia (GoI) will implement enhanced actions to study and map regional vulnerabilities as the basis of adaptation information system, and to strengthen institutional capacity and promulgation of climate change sensitive policies and regulations. It further emphasized the need for local capacity strengthening, improved knowledge management, convergent policy on climate change adaptation and disaster risks reduction, and also application of adaptive technology; in order to achieve the medium-term goal of Indonesia's climate change adaptation strategy which aiming to reduce risks on all development sectors. The proposed approach of this program is in line with the NDC document by focusing on mapping area vulnerability and risk, fostering public and institutional capacity building and also advocating relevant policy. Climate Risk Assessment and Climate Impact Assessment that will be conducted at village and city level will provide vulnerability and risk map that will subsequently utilized to develop adaptation plan. This adaptation plan will then be integrated into local development plan and advocated to the higher governance level to ensure synergize climate-sensitive development plan from local to national. This sequence is in consistent with the First NDC of GoI where they see regional vulnerabilities as the basis of adaptation information system and foster climate-responsive policies.

**2. National Action Plan for Climate Change Adaptation (RAN-API)**

Action Plan in RAN API is divided into 5 sectors with Resilience of Special Areas as one of the sectors. This particular sector is further divided into 2 sub-sectors, one of which is Sub-sector of Coastal Area and Small Islands. There are 5 strategies developed for this sub-sector, which are:

- Life stability of coastal and small islands communities against climate change threat;
- Improvement of environmental quality of coastal areas and small islands;
- Development of adaptation structures in coastal areas and small islands;
- Adjustment of urban spatial plan by taking into account the risk of climate change;
- Development and optimization of research and information system on climate change in coastal areas and small islands.

This proposed program have tried to deliver the abovementioned strategies in the form of different project components and outputs, including developing and implementing adaptation

plan, mainstreaming process into local development plan and spatial plan, and also developing knowledge management platform. Pekalongan City is named as one of the pilot location of RAN API. A successful implementation of vertical approach within the program will set an example of synchronize planning to the other RAN API pilot area; in which RAN API also promote this vertical approach as part of their framework.

### **3. Law No. 32 Year 2009 on Environmental Protection and Management**

Climate change issue was taken into account in 2 articles in Chapter 3 on The Development of Environmental Protection and Management Plan (RPPLH), which are:

- Article 10 clause (2); which stating that climate change is one of the factors that need to be considered during the development of RPPLH
- Article 10 clause (4); which stating that climate change adaptation and mitigation plan is among the contents of RPPLH

Considering that city and provincial level is obligated to be developed by city and provincial government, hence the proposed program will assist the development process by providing and advocating climate risk assessment results and the corresponding adaptation plan.

### **4. Law No. 16 Year 2016 on Ratification of Paris Agreement to The United Nations Framework Convention On Climate Change**

The ratification shows GOI commitment to its people as well as international community to address climate change issue as a vulnerable archipelago to climate change impact. This proposed program support the ratification by aiming to address climate change issue at local level while at the same time aiming to foster a better institutional framework for climate change realm.

### **5. Government Regulation No. 2 Year 2015 on The National Midterm Development Plan (RPJMN) 2015 – 2019**

In section 1.2.2-Climate Change and sub-section 1.2.2.1-Problems and strategic issues of the RPJMN, the decrease of Greenhouse Gas (GHG) emission (climate change mitigation) and improvement of communities' resilience (climate change adaptation) were stated. The development of resilience coastal villages that are aiming to be done by this program is in line with the RPJMN content.

### **6. Presidential Decree No. 60 Year 2015 on Government Work Plan Year 2016**

The general objective for the 2016 Work Plan is to "Accelerate Infrastructure Development to Strengthen the Qualitative Development" by focusing on 6 leading sectors, which are: food sovereignty, energy and electrical sovereignty, maritime, industry, tourism, and also innovation and technology. Hard and soft structures will be amongst the contents of adaptation plan that will be developed during this program. This plan thus will surely contribute in the acceleration of infrastructure development in the area that is aiming to increase the quality of life of the population.

### **7. Ministry of Environment and Forestry Regulation No. 33 Year 2016 on Guidance for the Development of Climate Change Adaptation Action**

This regulation is the reference for national and local government to develop their climate change adaptation action plan and subsequently mainstreaming the plan into the corresponding development plan. The regulation states that identification of area/sector that will be the subject should be followed by climate vulnerability and risk assessment, prior to developing climate change adaptation actions and its implementation priorities. The actions then should be mainstreamed to the corresponding development plan, program and policy. General approach and program activities outlined in this proposal are referring to the abovementioned steps; ensuring program compliance to the said regulation.

**8. Ministry of Marine and Fisheries Regulation No. 23 Year 2016 on Management Plan of Coastal Area and Small Islands**

This particular regulation was developed as a means to foster cross-level and cross-sector synergy in managing coastal area and small islands. The regulation states that the relevant strategic plan should consist of cross-sector policy directive for the dedicated development plan area through the development of objectives, targets, and broader strategy, as well as implementation targets that equipped with appropriate indicators to monitor the plan. It further states that the management plan should contain policy framework, procedure and responsibilities in the event of decision-making process among stakeholders regarding agreement on resource use or development activity in the designated zone. The proposed program supports the regulation by also fostering cross-level and cross-sector coordination in its approach; involving not only government actors but also non-government institutions including lay public, driving multi-stakeholder involvement and coordination at any steps possible.

**9. Vulnerability Index Data Information System (2015) developed by Adaptation Directorate, Directorate General of Climate Change Control, Ministry of Environment and Forestry**

Preliminary assessment by utilizing standardized data in SIDIK shows that there are 15 vulnerable villages located in the coastal area of Central Java Province (including Pekalongan City); where some of them are severely affected by sea level rise. The selection of Pekalongan City coastal area as the geographical scope is in line with this preliminary assessment. However at the moment, SIDIK is not compatible to be utilized by coastal area to assess their vulnerability, since coastal characteristics had not been fully considered in SIDIK method. Hence this program is aiming to refine SIDIK with recommendations on coastal indicator that can be included in SIDIK to better illustrate the vulnerability of coastal area, so that local government of coastal city/district could utilize SIDIK results for their local plan and policy.

**II. This proposed program is also consistent with the following institutional and policy framework and commitment at Provincial and City Level:**

- 1. Central Java Province Local Regulation No. 9 Year 2009 on Management of Coastal Area and Small Islands**
- 2. Central Java Province Local Regulation No. 4 Year 2014 on 2014-2034 Zoning Plan of Central Java Province Coastal Area and Small Islands (RZWP3K)**

**3. Central Java Province Local Regulation No. 5 Year 2014 on 2013-2018 Mid-term Development Plan (RPJMD) of Central Java Province**

**4. Central Java Governor Regulation No. 1 Year 2011 on Strategic Plan of Central Java Province Coastal Area and Small Islands**

The four abovementioned provincial regulation contains issues related to development plan on coastal and small islands areas of Central Java Province which includes Pekalongan City. The Central Java Province RPJMD further emphasizes significant threat posed by climate change phenomena to the area from increasing sea temperature and sea level. The document further categorized Pekalongan City as an area that is prone to climate-related disaster, including flood, drought, tidal wave and abrasion. Furthermore, the RZWP3K document assigns Pekalongan City as one of the centre of activity at regional scale as well as the minapolitan area (fishery centre). Measures taken within this proposed program is aiming to address the aforementioned climate-related issues in Pekalongan City coastal area by employing hard and soft structure interventions to ensure its effective role as one of the regional centre of activity and minapolitan area.

**5. Pekalongan City Local Regulation No. 4 Year 2010 on Zoning Plan of Pekalongan City Coastal Area (RZWP)**

RZWP document is a long-term planning document that is aiming to create a balance between development needs and conservation efforts by creating a sound planning, management and development of coastal area. Capacity building and community-based planning are amongst fundamental principle for this document. The geographical scope of this RZWP is 6 villages located within Pekalongan Utara sub-district that directly interfacing Java Sea or affected by activities conducted at coastal area and the sea. These 6 villages are among 9 villages that are selected as the geographical scope for this proposed program, and thus the program is consistent with the aforementioned Local Regulation.

**6. Pekalongan City Local Regulation No. 4 Year 2016 on 2016-2021 Mid-Term Development Plan (RPJMD) of Pekalongan City**

Improvement of environmental carrying capacity and infrastructure is among strategic issues stated in the RPJMD document, in which flash flood and coastal flood were acknowledged as issues that driven the need for the improvement. The local government is targeting a reduction of inundated area to 37.57% in 2018 by building and strengthening flood (both flash and coastal flood) prevention and control infrastructure. In the same year, the government is also targeting 37% of the generated solid waste to be managed at 3R facilities; reducing the volume that being disposed at drainage channel and/or river. The proposed program will support this target by developing flood prevention and control plan, as well as build the chosen and feasible infrastructure that deemed as suitable to reduce inundation area.

**E. Describe how the project / programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.**

**1. Presidential Regulation No. 38 Year 2015 on Public Private Partnership (PPP)**



Issued on 20 March 2015, the regulation revokes and replaces the Presidential Regulation No. 67 Year 2005. This regulation strengthens the role of GoI in providing Infrastructure Guarantee, and thus increasing the creditworthiness/bankability of PPP infrastructure; developing sound procedures for granting security over project finance; reducing financial risk for both investor and project proponent. GoI is continually driving the PPP scheme as the backbone for infrastructure financing.

For the pre-selected adaptation actions, PPP can be implemented during implementation of vennamei shrimp aquaculture and bandeng pond farm at city level. Revolving fund scheme that will be supplied in the form of micro loan to the community will be managed under private financial institutions. Further private sector involvement is urged in this proposed program, which will be initiated by exploring the potential contribution of private sector to climate change adaptation actions. This will be followed by a series of multi-stakeholder discussion to assess and reach an agreement on innovative adaptation measures for coastal area. Financing scheme for these PPP measures, including one that will be implemented for the pre-selected adaptation actions will take account of the content of the abovementioned Presidential Regulation.

## **2. Ministry of Environment and Forestry Regulation No. 33 Year 2016 on Guidance for the Development of Climate Change Adaptation Action**

Approach for the proposed program is designed by following steps elaborated in the particular regulation; from area and sector identification, developing climate risk assessment up to developing the corresponding adaptation plan and mainstreaming process to the relevant development and spatial plan, program and policy. Assessment during the full proposal development process shows that no adjustment will be made to the steps provided in the guideline since the local characteristics are in accordance with conditions that had been stated in the guidance.

## **3. Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands**

According to Chapter 2 Article 2 of the regulation, this particular regulation is the norm, standard, and guidance for local governments (provincial and district levels) to develop their areas management plan of coastal area and small islands. Steps taken in this proposed program have considered and been in line with the planning principle elaborated in the regulation, including:

- In accordance with and/or complementing the local development plan system
- Integrate different activities of diverse stakeholders, including private sector and community; as well as activities relevant to both land and sea ecosystem
- Undertaken in accordance with the area's characteristics and potential
- Involvement of local community and other stakeholders

The approach and methodology for this proposed program are also designed by taking into consideration the abovementioned principles. Activities and planning process will be undertaken in line with the applied development planning system at local, provincial and national level; with multi-stakeholders involvement at the core by involving lay public in the

planning process and private sector in the future stage to create public-private partnership in implementing adaptation actions.

#### **4. Strategic Environmental Assessment as Compulsory Assessment in Spatial Plan and Development Plan**

Climate vulnerability and risk assessment is one of 6 analysis options needed for the development of Strategic Environmental Assessment (SEA); in which the SEA itself is a compulsory assessment in the development and/or evaluation process of Spatial Plan and Development Plan. To date, there is no standardized step in specific manner (only general approach available) to develop the SEA; the proponent could use only the CRA result to develop SEA and subsequently benchmark the contents of the proposed plan with the CRA. In advocating the CRA result to be taken into consideration in SEA, the proposed program will follow the nationally standardized steps of SEA, from issue identification to adjustment recommendation for the benchmarked plan.

Meanwhile for Environmental Impact Assessment (EIA), the particular assessment will be done if the selected adaptation option (in form of hard structure) falls under the category of project that needs EIA; otherwise EIA is not compulsory to be undertaken. Each of the selected adaptation options will be screened utilizing EIA project list. Environmental Rehabilitation will be required if the activities contaminate the area. The development of climate risk assessment, SEA and EIA within the program will ensure that environmental and social impacts and risks are being considered, assessed and addressed throughout the project.

The pre-selected adaptation actions that will be implemented under the program are not categorized as activity that need to be undergone EIA. However, the PMU will assure that all activities will not pose adverse impacts to the surrounding environment by implementing the needed mitigation measures. As an initial assessment, this proposal document also contains initial findings on environmental and social risks from the program, which elaborated on Part II - Section K as well as on the Environmental and Social Management Plan (ESMP). PMU will also continue to monitor any potential risks that had not been identified at this moment and might arise during program implementation, and will carry out the necessary mitigation measures.

#### **5. Ministry of Public Works and Housing Construction and Development Standard, and Indonesia Building Codes**

Hard structure that will be constructed as part of the proposed program in future time will be ensure to conform with building codes, especially since conformity to the codes is the primary requirements for granting the building license. For hard structure that serve as public facility, the construction and development will be ensured to follow infrastructure construction and development standard from Ministry of Public Works and Housing. Construction of sanitation facilities will be among the selected adaptation actions under this program. The facilities' design and construction process will adhere to the aforementioned applicable standard to prevent negative impacts to the surrounding environment, including ensuring that effluent from the sanitation facilities (septic tank and communal waste water

management installation) will comply with domestic waste water quality standard stated in the housing construction and development standard. Furthermore, in compliance to the housing standard, latrine, septic tank and the waste water management installation will be constructed in a safe location and located more than 9 m from community's clean water source to prevent water pollution from the said facilities. .

## **6. Water Supply Regulatory Framework**

Water supply regulatory framework is also the compliance standard to be fulfilled. Urban water supply is a highly regulated business in Indonesia; a multitude of regulations on urban water supply are issued by different governmental institutions at different levels. Any intervention project under the proposed program will be ensured to meet the regulatory framework, both applied at national and local level.

### **F. Describe if there is duplication of project / programme with other funding sources, if any.**

#### **PAKLIM GIZ-ICLEI Oceania**

Pekalongan City had collaborated with external parties in climate change issue. In 2010, this city was among 8 pilot cities in Central and East Java Province that implement Integrated Climate Action approach that was developed by PAKLIM GIZ and ICLEI Oceania. Based on this approach, the city was able to develop Climate Risk and Greenhouse Gas Emission Profile; in which the risk profile methodology employs a more qualitative approach, with participants perception became the basis for the profile. Following the profile, the city with assistance from PAKLIM GIZ thus developed Integrated City Climate Strategy which outlining climate mitigation and adaptation strategy that detailed into corresponding actions. Several actions in ICCS had been inserted into RPJMD of Pekalongan City, receiving funding from local government budget. PAKLIM GIZ does not provide further funding assistance for the city after ICCS development and their intervention in Pekalongan City had ended in 2014.

Risk profile and ICCS documents are 2 outputs from PAKLIM GIZ program that will be utilized by the program. This program will utilize city-wide risk profile information as qualitative background information for coastal risk assessment training and development at city level, while ICCS will be further assessed to see which coastal-related adaptation actions that had been identified and which one had been inserted to the city development plan. Furthermore, this program will also evaluate the implementation of adaptation actions from ICCS and its integration process to RPJMD. Identify the strengths and weaknesses from the process and utilize it for the benefit of the program.

#### **ACCCRN-Mercy Corps Indonesia**

Other external party that works closely in Pekalongan City is Mercy Corps Indonesia (MCI), where one of the organization's programs is run in the said city, which is Asian Cities Climate Change Resilience Network (ACCCRN). This program is aiming to build climate change resilience knowledge in the city. Pekalongan City was selected as ACCCRN Replication City, and the program was commenced in 2013. ACCCRN in Pekalongan City was focusing on capacity building for community and local government on climate change issue. This capacity building process includes not only series of training and discussion in the city, but also involving

Pekalongan City local officials and practitioners in different knowledge sharing event outside Pekalongan. Yet the trainings and discussions conducted were none on the topic of quantitative climate risk assessment. Starting last year, ACCCRN is in its closing phase and the program finished its implementation by the end of 2017, hence there is no more funding assistance given to the city. Pekalongan City Team was established as part of ACCCRN program with member comprises of representative from local government officials, academics, practitioners and local NGOs. This team's main role is building climate change awareness in the city and fostering the implementation of adaptation actions under the umbrella ACCCRN program. Seeing different background possessed by the city team member and how they have been exposed to and equipped with climate-related context, this proposed program sees that the said team has the potential to play a major role in the program implementation, particularly at village and city level. Thus this program will reactivate the working group that will work closely with the program's PMU. Aside from the city team, this particular program will also draw upon lessons from the implementation of adaptation actions under ACCCRN program; where it fails and where it succeed, including reflecting on the sustainability of the implemented actions.

### **JICA**

At a higher government level, Central Java Province had work closely with Japan International Cooperation Agency (JICA), specifically in implementing Project of Capacity Development for Climate Change Strategies in Indonesia (2010-2015). The main activity from the collaboration was mainstreaming adaptation/mitigation of climate change in National Development Planning, with Central Java as part of the scope. JICA had also developed study on Integrating Climate Change Adaptation into Spatial Planning Policies at 2 pilot sites which are 1) Java Island and 2) South Sulawesi (West & South coastal area, Selayar). Among the output of the study is recommendation on integration mechanism of adaptation plan into spatial planning. The JICA program is completed in 2015, hence the proposed program will not overlap with JICA funding. Seeing that the mechanism is developed at a higher government level that has to cater to different city/regency characteristics in its planning proves, but on the other hand considering the fact that Pekalongan City is part of Central Java Province that will somewhat affected by planning conducted at provincial level, hence this program will learn from JICA study on mainstreaming and integration mechanism, and assess whether the proposed mechanism can be applied in Pekalongan City context and how to adjust the mechanism.

The proposed program then will fill the gaps that have not been addressed by external parties that had been working in Pekalongan City and Central Java Province, as well as utilizing and leveraging the existing knowledge built by those parties to build a resilience coastal area. This approach is expected as will create sound plan, program, and policy on climate adaptation and climate resilience issue in coastal area. Further assessment on the gaps will be done early on the program preparation stage

### **Central River Region Pemali Juana (Directorate Generale Water Resources, Ministry of Public Works**

Earlier this year. the Central River Region Pemali Juana (BBWS Pemali Juana) start the construction of cross-boundary dam that intended to protect Pekalongan City and Pekalongan District from coastal flooding; where the construction process is expected as will be completed

in 2019. This project is done in collaboration between BBWS Pemali Juana, Central Java Province, Pekalongan District and Pekalongan City. In Pekalongan City, the dam is constructed in Bandengan Village which located in the western part of Pekalongan. Considering this information, thus coastal embankment planned in the program will complement this BBWS project, and will be built in the eastern part of Pekalongan City, specifically in Degayu Village. Aside from the abovementioned BBWS Pemali Juana's project, there is no on-going or upcoming project in Pekalongan City that can be identified, so that there is no risk of funding resources' duplication.

**G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.**

Documentation and dissemination of information and knowledge is of essential within this proposed program, not only information on climate change and coastal resilience material, but also approach taken as part of the program. This latter information become important in the event of other area would like to replicate the program in future time. Accordingly, knowledge management became one of the components of this proposed program.

The knowledge management component will contain activities that capture and disseminate both tacit and intrinsic knowledge. For tacit knowledge, climate change training and knowledge exchange activities will serve as information and experience sharing media. These such forums will facilitate learning and co-creation of opportunities for various stakeholders. The intrinsic knowledge will be captured through more traditional methods, by conducting research that can be disseminated to government, practitioners, academic community and also general public. The output of the research could be both in form of knowledge product or advocacy material.

The overall knowledge transfer process is under component 3 and component 4. Component 3 provides the cornerstones for capturing and disseminating lessons learned, other project components / activities directly contributing to knowledge management and dissemination mechanisms from village to city and inter-regional levels, and component 4 focuses more on share learning from the local to the national level.

Activities that falls under knowledge management component within this proposed program are embedded at each governance level. Despite its implementation is scattered at different level of government, yet the series of activities are interconnected since they are structured in a way that foster and allow two-way information sharing amongst different level of government. A total budget of USD 371.355 is allocated to implement knowledge management component in this particular program.

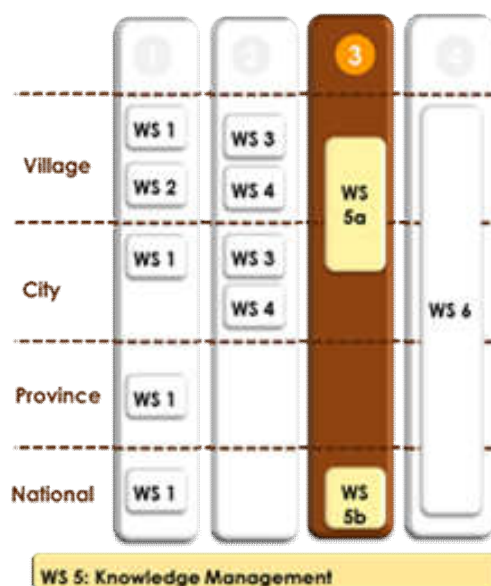


Figure 11. Knowledge Management Component is Embedded at Different Level of Governance

**At village level**, a participatory approach (involving communities and local authorities in conduct community based risk assessment, planning and implementation activities) will lead to increased local knowledge on climate change adaptation. Project demonstration sites will contribute, from the start and in an ongoing way, to share lessons and training through local disseminators and tools and guidelines. Knowledge dissemination tools that will be utilized in the proposed program encompassing regular newsletter, social media platform and knowledge board (contain information on climate-related issue as well as program progress) in community centre or village office. Lessons learned obtain at this level will also be communicated to stakeholders at city level.

**At city level**, transfer of results and lessons learned to other communities across village and broader city area will be promoted. The program's knowledge management product will be disseminated not only to Pekalongan City and Central Java Province area, but also broader community. For Pekalongan City dissemination, the project management team will collaborate with the existing knowledge sharing platform, the Mangrove Information Centre (Pusat Informasi Mangrove/PIM). At the moment, PIM is focusing only on mangrove issue, however preliminary discussion with PIM shows that the organization is highly willing to broaden their scope to incorporate climate change resilience issue.

In this project PIM will play a major role at city level in disseminating knowledge product and program benefit to wider city stakeholders, thus will be facilitated through an online knowledge hub that will include capacity-building webinars, technical documents, multi-media knowledge products thus will be developed as a information and training centre for climate adaptation action. This role will support in building a sense of ownership to the actions and alternative livelihood produced under the program. During the implementation stage, particularly the workshop series, the program will build the sense of need and importance of this platform as a

knowledge sharing media by emphasizing the significance of regular multi-stakeholder discussion in addressing climate change impact in their area. To create and maintain an effective information sharing process at city level, a knowledge management platform will be developed.

Lessons learned documented at this level that deemed as significant to be advocated to higher government level will be followed up by developing subsequent research papers and policy brief as advocacy material.

**At national level,** Will use two approaches, First approach is supporting the Ministry of Environment and Forestry (MoEF) to make improvements SIDIK to suitable for coastal risk assessment based on pilot in pekalongan city. One knowledge product that will be the output for the proposed program is Handbook on SIDIK for Coastal Risk Assessment that can be used by local government, NGOs and Civil Society Organizations. The handbook development will be based on climate risk assessment process conducted at city level. Related to advocacy material, the research will be the basis for developing policy briefs that highlight the shortcomings in national policy, fiscal and other institutional framework in developing a resilience coastal city. . A direct linkage will be established, through the partnering MoEF, ICA and Apeksi facilitating countrywide dissemination to other cities/regencies, NGOs and Civil Sociesty organisations

Second approach is the project management team will actively engage with the existing national climate change platform, the Indonesia Climate Alliance (ICA). ICA member consists of different national level organizations that share the same interest in climate change issue. This collaboration will assist the team to share experience from local context and elevate the issue at national level, as well as advocating the developed policy brief. Throughout the course of the program, an active communication and discussion will be conducted with the platform to advocate lessons learned from local experience in Pekalongan City as well as on common interests. During the program period, the program will apply as the platform member.

Additionally, the proposed program also has Monitoring and Evaluation Unit as part of the project management team. This unit responsible for knowledge management and sharing within project team member, organizing knowledge sharing event and outreach, and conducting pre and post-test survey on given interventions for evaluation purpose. All those activities will be documented, reported and made available.

Knowledge management in this program tries to link science, implementation, management and policy both horizontally (between different sector) and vertically (between different government level). Changes in science could affect implementation strategy and subsequently alter how the project being managed, and consequently affecting the advocacy process. Considering the dynamics of this link, adaptive management approach thus became an important factor here. PMU will exercise adaptive management approach in program implementation, by emphasizing 'learning and adapting' context, through partnerships with diverse village and city stakeholders; allowing them to work and learn together with the stakeholders in building a sustainable Pekalongan City. Adaptive management approach will allow PMU to acknowledge the existence

of uncertainty and provide them with flexibility to work around the emerging issue; giving them space for adjustment in order to achieve the targeted objectives.

In each city and village working group meeting, issues that will be continually discussed are activity progress, impediments being faced and the proposed solutions. If the impediments are experienced by not only one single area, the issue will be communicated to project officer and documented as lessons learned. Adjustment to program approach will be done accordingly if the issue persist in the said area; in which the adjustment should be agreed by the stakeholders and approved by the team leader.

The general learning objectives and indicator can refer to the proposed program's Results Framework, while a more detailed objectives and indicator for knowledge management at village and city level will be discussed during village and city working group meeting, to ensure the objectives and indicators are a consensus of the member, so that they are committed to monitor and work towards its achievement.

Involvement of diverse stakeholders within the working group, as well as building knowledge management platform are considered as the two main factors that could decide upon the sustainability of knowledge management strategy outcomes after the program period is ended. These efforts enable the generated knowledge to be disseminated to wider stakeholders, and not only those directly involved in the program; creating a potential for replication in other area by other actors. During the course of the program, the knowledge management platform will be used effectively and regularly to disseminate information as measure to build stakeholders need on climate-related information, open up their perspective on the benefit that can be obtained by interacting with the platform as well as nurturing knowledge sharing habit. It is expected that by creating this need on information and realizing on benefit that they could get, the stakeholders will have a sense of ownership to the platform and work together to maintain its operation in future time, after the program is ended.

Furthermore, building upon this sense of need and ownership, PMU will work with city working group to search for a host for the platform and integrate platform management into local development plan. The host is needed to allow government funding stream to flow to the platform. The proposed host for the platform is Pekalongan City BAPPEDA as the leading sector for development planning. This particular institution does not have a specific work focus, instead they deals with diverse development issue. Climate change and coastal resilience are considered as development issue, and thus BAPPEDA will be the most appropriate host for the platform. A successful integration into local development plan will ensure that the platform will get continual budget allocation from the local government. To successfully advocate this integration, village working group will prepare a case study that will show the positive correlation between platform existence and successful implementation of adaptation action.

PIM is a local platform in Pekalongan City that specifically works in mangrove-related issue. Despite the program also touch mangrove context, however the platform that will be developed at city level will not be focusing on mangrove, instead on climate change and coastal resilience. Thus PIM and the future platform will complement each other and could implement cross-learning mechanism.



- H. Meanwhile ICA is a national level platform that works around general resilience issue. The proposed city-scale platform will not overlap and duplicate ICA efforts since both have a different scale (local vs national level platform). Moreover, during its implementation period, the proposed program will join ICA and use ICA as a vehicle for national advocacy process. This advocacy collaboration is feasible since ICA also has common interest in coastal resilience issue. Information and lessons learned at village and city level will be communicated by PMU in regular ICA meeting as a part of advocacy material to the national government. Hence ICA and the future local platform complement each other by drawing upon common interest for advocacy. Without the existence of a nationally-known advocacy partners, such ICA, it will be difficult to get traction for advocacy process at national level.
- Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy of the Adaptation Fund**

As an important part of the program design process, various consultations were held with stakeholders including the targeted villages to map the problems of women, men, and other marginalized / vulnerable groups to ensure that the implementation and achievement of programs none of them were ignored. From the consultation, both men and women can get opportunities to express their views and needs and can actively participate in every program activity and get benefit from the results of the program

Table below shows stakeholders from different level of government that were consulted for the purpose of concept proposal development and results from each of the consultation activity

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
<b>A</b>	<b>National Level</b>			
1	<b>ICCTF</b> (Indonesia Climate Change Trust Fund); <b>RAN-API</b> (National Action Plan –Climate Change Adaptation) <b>Secretariate;</b> <b>Thamrin School;</b> <b>WALHI</b> (Friends of the Earth – Indonesia); <b>IESR</b> (Institute for Essential Services Reform); <b>ICA</b> (Indonesia Climate Alliance) – 20/04/16 and	<ul style="list-style-type: none"> <li>•To get input from institutions and CSOs who have been heavily involved in the climate change issues and the development of climate change strategies in Indonesia, what type of climate change adaptation proposal concept that Kemitraan should be building.</li> <li>•To gain more knowledge of the vast working area</li> </ul>	<ul style="list-style-type: none"> <li>•RAN-API is undergoing second review and its monitoring and evaluation framework is in development.</li> <li>•Suggests that the climate change adaptation activities that should be proposed through AF funding, should be directed towards small islands areas.</li> <li>•Food security is also a crucial issue, especially for certain parts in Indonesia namely the Eastern</li> </ul>	<ul style="list-style-type: none"> <li>•Based on the consultations, Kemitraan will build the proposal concept under the Small Islands and Coastal Climate Resilience thematic area .</li> <li>•Will urgently request audience with MoEF and MoF in order to receive statement on who holds the NDA status.</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
	02/05/16	<p>and referring to the RAN-API framework from the government of Indonesia, which cluster of climate change adaptation should make the priority for work in Indonesia.</p> <ul style="list-style-type: none"> <li>•To identify the thematic and locations area(s) to focus on for climate change adaptation.</li> </ul>	<p>parts.</p> <ul style="list-style-type: none"> <li>•Activites should not be only directed towards agriculture but also fishing, especially providing training of correct fishing for fishermen communities.</li> </ul>	
2	<p><b>Director for Climate Change Adaptation</b> of the Directorate General of Climate Change Control at the <b>Ministry of Environment and Forestry</b> – 27/04/16:</p>	<ul style="list-style-type: none"> <li>•To gain input from the MoEF on the type of climate change adaptation proposal concept that Kemitraan should be building.</li> <li>•To receive information on who holds the Adaptation Fund NDA status in Indonesia.</li> </ul>	<ul style="list-style-type: none"> <li>•Issues of Health can also be raised in the Coastal areas.</li> <li>•There are 15 areas that are considered as priority for high climate risk (stated in RAN API, if Kemitraan can help in building the climate change adaptation plan in those areas that would be a welcomed initiative.</li> <li>•Use SIDDIK for data collection.</li> <li>•Received info that WFP has been deemed as fail to perform their Adaptation Fund program in Lombok, West Nusa Tenggara, Indonesia.</li> </ul>	<ul style="list-style-type: none"> <li>•Should focus in one of the 15 areas/locations priorities in RAN API</li> <li>•Use Sidik for climate risk assessment</li> </ul>
3	<p><b>Deputy Director for International Cooperation and Climate Finance</b> at the <b>Ministry of Finance</b> – 31/05/16:</p>	<ul style="list-style-type: none"> <li>•To inform MoF about the Adaptation Fund NIE accredited status received by Kemitraan, and the consultation process for proposal concept</li> </ul>	<ul style="list-style-type: none"> <li>•MoF seems to think that the NDA should be with them however.</li> </ul>	<ul style="list-style-type: none"> <li>•MoF will later confirm about the NDA status with MoEF.</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
		writing. •To receive information on who holds the Adaptation Fund NDA status in Indonesia.		
4	<b>Director-General</b> for Directorate General of Climate Change Control at the <b>Ministry of Environment and Forestry</b> - 29/07/16:	•To receive endorsement letter from the Director-General for Directorate General of Climate Change Control at the Ministry of Environment and Forestry, as the Adaptation Fund NDA in Indonesia.	•Ms. Masripatin has read the brief of the then proposal concept for the project Kemitraan intends to propose to Adaptation Fund, and she gave her approval.	•Director-General for Directorate General of Climate Change Control at the Ministry of Environment and Forestry gave the endorsement letter to Kemitraan to be submitted along with the proposal concept to Adaptation Fund.
5	<b>Research Associate</b> for Marine Research Center, Agency for Marine & Fisheries Research & Human Resource at the <b>Ministry of Marine &amp; Fisheries</b> – 24/02/17:	•To gain input from MoMF on the climate change adaptation proposal concept that Kemitraan is currently writing, especially on the program currently developed, adaptation strategies, and problem solutions. •To receive information on MoMF related activities in the areas of climate change adaptation.	•MoMF Research Center is currently working together with BAPPENAS to create Indonesian Marine Health Index. •In the coastal areas might be important to focus into skills and other initiatives development for Fishermen; Sea products cultivator; and Salt cultivation as income source and livelihood improvement. •When conducting feasibility study, is important to invite local religious leaders/institutions, because they have strong influence in mobilizing the community. •	•In creating or implementing adaptation programs, it is important to include the geographical condition of the project location, especially when the program conducted has a lot to do with using local natural resources in improving the local livelihood. •The program that is to be implemented should be based on accountable field survey and directed towards generating alternative income and economic improvement for the local community in the coastal areas.

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
<b>B</b>	<b>Province Level</b>			
<b>1</b>	<b>BAPPEDA</b> (Local Development Planning Agency) of Central Java Province - 24/03/17:	<ul style="list-style-type: none"> <li>•Gain information on Provincial plan in resolving the serious condition in Pekalongan, notably with the river infrastructure since the authority regarding river diversion etc., falls under the provincial geovernment.</li> <li>•To get data and information about coastal zone management areas in Central Java and Pekalongan.</li> <li>•To have a mutual understanding on what activities that Kemitraan should conduct in order to compliment the activities done by BAPPEDA Semarang province in Pekalongan.</li> </ul>	<ul style="list-style-type: none"> <li>•Confirmation on reclamation plan to be implemented.</li> <li>•The coastal zoning plan has just finished, a result of work by Marine and Fishery Agency and BAPPEDA of Central Java.</li> <li>•Hope for up-scaling the Kemitraan project in Pekalongan in other parts surrounding it.</li> </ul>	<ul style="list-style-type: none"> <li>•Kemitraan received substantial data from BAPPEDA of Semarang Province and commitmet to support Coastal resilience action in Pekalongan City</li> </ul>
<b>2</b>	<b>Head of Environment Agency</b> of Central Java Province - 24/03/17:	<ul style="list-style-type: none"> <li>•To inform about Kemitraan's intention in having Pekalongan as the project location for Kemitraan's climate change adaptation project, funded by Adaptation fund.</li> </ul>	<ul style="list-style-type: none"> <li>•Briefing on the consultation process done in Pekalongan with the Mayor of Pekalongan and multi-stakeholders; with the BAPPEDA of Semarang province.</li> <li>•A description on the type of project that is planned to be implemented in Pekalongan, as a result of multi-stakeholders consultation.</li> </ul>	<ul style="list-style-type: none"> <li>•Head of Environment Agency of Semarang province is well informed and support Kemitraan's climate change adaptation proposal concept to Adaptation Fund on focusing coastal city resilience in Pekalongan City</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
<b>C</b>	<b>City Level</b>			
<b>1</b>	<b>Head of BAPPEDA</b> (Local Development Planning Agency) <b>in Pekalongan</b> – 20/03/17	<ul style="list-style-type: none"> <li>•To inform the government of Pekalongan about Kemitraan's intention in having the town as the project location for Kemitraan's climate change adaptation project, funded by Adaptation fund.</li> <li>•To gain the government of Pekalongan's support and approval for Kemitraan contacting as well as visiting multi-stakeholders in Pekalongan for data collection.</li> <li>•To get a formal endorsement from the government of Pekalongan for Kemitraan's concept proposal.</li> </ul>	<ul style="list-style-type: none"> <li>•Government of Pekalongan understands the Kemitraan's climate change adaptation concept proposal and provides official support for submitting the proposal to the Adaptation Fund.</li> <li>•The BAPPEDA Pekalongan aided Kemitraan in contacting and inviting the multi-stakeholders to attend the FGD.</li> </ul>	<ul style="list-style-type: none"> <li>•Government of Pekalongan's endorsement for Kemitraan's concept proposal and their support for the project development and implementation.</li> <li>•Bappeda suggest kemitraan can focusing on nine climate vulnerables villages in Pekalongan City</li> </ul>
<b>2</b>	<b>Former Mayor of Pekalongan</b> (period of 2005-2010 and 2010-2015) – 20/03/17:	<ul style="list-style-type: none"> <li>•To inform about Kemitraan's intention in having the town as the project location for Kemitraan's climate change adaptation project, funded by Adaptation fund.</li> <li>•To gain information on the past initiatives done in mitigating the climate change related in Pekalongan.</li> </ul>	<ul style="list-style-type: none"> <li>•Past initiatives avoided any nature reconstruction activities (reclamation), tend to sort for building geotube, mangrove restoration (with the intention to also develop alternative income from the habitat through crab, Panami shrimp cultivation).</li> <li>•Other activities involved creating rivers to collect the water from the flood; also by channelling</li> </ul>	<ul style="list-style-type: none"> <li>•For mangrove restoration, there are some issues related to land ownership by community as well as the Pekalongan District.</li> <li>•Even though building embankments are needed but not exactly required. Aids should be directed mostly towards geotube construction, ponds revitalization programs.</li> <li>•Mr. Ahmad (former mayor) assisted in</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			the flow of the floods into the selected rivers; relocation of 40 – 60 households who used to live in the riverbanks;	notifying Mayor of Pekalongan about Kemitraan's project concept intention, as well as other officials in the different institutions.
3	<b>Multi-stakeholders Focus Group Discussion</b> for Adaptation Fund in Pekalongan District – 21/03/17	<ul style="list-style-type: none"> <li>•To inform the multi-stakeholders in Pekalongan about Kemitraan's intention in having the town as the project location for Kemitraan's climate change adaptation project, funded by Adaptation fund.</li> <li>•To get necessary contacts in order to gain access for data collection.</li> </ul>	<ul style="list-style-type: none"> <li>•Gained information on past and current programs undertaken by different institutions: Pekalongan was the first town issued a local regulation on coastal area management but the content was more directed towards natural disaster risk management.</li> <li>•Gained comments and inputs on the current conditions faced by Pekalongan, for instance: the national program of "Cities Without Slums" that was not making so much success; one of the causes of tidal floods and the high floodwaters was also due to poor infrastructure, and lack of initiatives from the ponds farmers to build water tunnels; the whole drainage system of Pekalongan was designed as irrigation system and not as water tunnels.</li> <li>•Towards the end of the FGD, the Mayor of Pekalongan stated the importance of bottom-</li> </ul>	<ul style="list-style-type: none"> <li>•The FGD had succeeded in giving Kemitraan contacts to gain access to various data of Pekalongan.</li> <li>•The acknowledgement of Kemitraan's climate change adaptation project concept development in Pekalongan by the Mayor of Pekalongan at the FGD, has given additional boost in gaining support from the multi-stakeholders.</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			up approach in his administration in order to get all the neighborhoods in Pekalongan to understand the local government vision and mission through 2021. He mentions the importance for geographical area mapping and finding solution to the tidal flood spectre problem. In 2017 the government has allocated 30 Million rupiahs to tackle the problem, which 20 Million allocation comes from local government budget, and the remaining 10 Million comes from provincial government budget.	
4	<b>Mayor of Pekalongan</b> (period of 2015-2020) – 21/03/17:	<ul style="list-style-type: none"> <li>•To gain a formal endorsement from the Mayor of Pekalongan for Kemitraan's concept proposal.</li> </ul>	<ul style="list-style-type: none"> <li>•Mayor of Pekalongan understands the Kemitraan's climate change adaptation concept proposal and provides official support for submitting the proposal to the Adaptation Fund.</li> </ul>	<ul style="list-style-type: none"> <li>•Mayor of Pekalongan's endorsement for Kemitraan's concept proposal and his support for the project development and implementation.</li> </ul>
5	<b>Regional Secretary of Pekalongan</b> – 21/03/17:	<ul style="list-style-type: none"> <li>•To gain information of the past and current programs related to the climate change adaptation activities in Pekalongan.</li> <li>•To get feedback on priority locations and types of climate change adaptation</li> </ul>	<ul style="list-style-type: none"> <li>•Received information about the climate change adaptation and mitigation programs and activities that have been and will be held by, or with support, of the government of Pekalongan.</li> <li>•Received substantial</li> </ul>	<ul style="list-style-type: none"> <li>•Activities to be proposed in Kemitraan's concept proposal should be synergized with programs and activities that are to be implemented by the local government of Pekalongan.</li> </ul>



No.	Stakeholder	Consultation Objective	Outcome	Conclusion
		activities for Kemitraan's concept proposal development.	information and geographic priorities for the project;	
6	<b>BINTARI</b> (Bina Karta Lestari) <b>Foundation – CSO – 20/03/17: Amalia</b>	<ul style="list-style-type: none"> <li>•To gain information on the impact of climate change in Pekalongan; the activities already carried out, both by the government and CSOs; the mitigation activities; the condition of the effected community in Pekalongan; the nature of cooperation with the local and provincial government.</li> </ul>	<ul style="list-style-type: none"> <li>•Based on observation, from 2000 – 2016, with the worst being 2008 onwards, the water from the sea has penetrated deep into the living areas of some heavily effected villages.</li> <li>•Using Bandengan village, as the worst effected village as an example, starting from 2000 the water from the wells were no longer drinkable.</li> <li>•There are houses which are permanently flooded; houses that had to make additional higher modification to the based of the building which then resulted in the shorter and smaller doors and windows; toilets in the house which could no longer be used;</li> <li>•They did not have many alternatives to move due to the fact that many of the men in the community cannot abandon their livelihood. As a consequence, those who did not move and have the inside of their houses flooded had to adapt by wearing boots while</li> </ul>	<ul style="list-style-type: none"> <li>•Many more in the community actually have the desire to learn how to cultivate seaweed and fish but request initial fund and continuous guidance from any able institutions.</li> <li>•It is imperative to get contacts from the FGD, in order to get access to collect various of required data.</li> <li>•Very important to document the real-life condition in Bandengan and other effected villages.</li> <li>•The community in Bandengan village should have received aid from the government for relocation but no such assistance ever been done.</li> </ul>



No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			<p>inside the house and even sleep in the flood.</p> <ul style="list-style-type: none"> <li>•The health effect on the condition is the increase in diarrhea and dermatitis related illnesses.</li> <li>•Those who used to be rice farmers now switched to <i>wareng</i> seaweed and fish pond. There were those who used to own lands for farming now had to revert on being paid workers for fish ponds and as construction workers, pedicab drivers, factory workers, fishermen.</li> </ul>	
7	Local Disaster Management Agency of Pekalongan - 22/03/17	•To gain information of the disaster vulnerability of Pekalongan.	•Received information about the condition and history of disaster in Pekalongan based on Disaster Risk Map.	•A clearer wholesome image of existing and potential climate and development related catastrophe in Pekalongan.
8	Head of Environment Agency of Pekalongan - 22/03/17	•To gain information on the status of Pekalongan's working group on climate change and adaptation strategies and mitigation implementation in Pekalongan.	<ul style="list-style-type: none"> <li>•The understanding of importance to enable the working group of climate change in Pekalongan.</li> <li>•Proposed some adaptation activities to be included in the Kemitraan concept proposal.</li> </ul>	•The Environment Agency's support for Kemitraan to submit the concept proposal to the Adaptation Fund.
9	Public Work Agency of Pekalongan – 23/03/17	•To gain information of the past and current programs carried out related to the climate change adaptation activities, in particular tidal	•In attempt to resolve the tidal flood issues, the PWA in Pekalongan mainly focused their activities in bettering infrastructure by	<ul style="list-style-type: none"> <li>•Public works Agency ask kemitraan project concept will work at the activity level, concrete actions and the policy level.</li> <li>•Kemitraan received</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
		flood problem mitigation, in Pekalongan.	building drainage system. •For Bandengan they are planning on building a dam that hopefully can start in 2018. •The Northern areas of Pekalongan are the ones heavily effected by the tidal floods. •They are looking into solving the problem of tidal floods without having to cause other environmental damage resulted from taking boulders from the sea banks. •There has been talk about implementing reclamation as a strategy. •PWA of Pekalongan has cooperated with the research unit of LIPI (Indonesia Institute of Science) for trying mitigate the tidal floods problem.	substantial data.
9	<b>Focus Group Discussion on Potential Adaptation Activities at Village and City Level – 09/04/2018</b>	•To draw information from community and city officials on their needs related to adaptation actions and the most suitable actions to be implemented	•Structural adaptation actions under this program should consider the construction of concrete coastal embankment initiated by the national government; how it will complement each other to address coastal flooding issue in Pekalongan City •Degayu area has the potential for ecotourism development. City	• The program will provide alternatives for coastal embankment's location •Ecotourism and secondary fisheries product development will be among alternative livelihood proposed under this program •Introduction of alternative livelihood will be complemented with continuous technical

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			<p>Tourism Agency and BAPPEDA agreed on this potential and will support its development</p> <ul style="list-style-type: none"> <li>• There are potential idle land for fisheries development</li> <li>• Vennamei shrimp has a high potential to increase community's economic productivity, yet its development is hindered by financial constraint and low level of technical skill</li> <li>• The community needs technical assistance in post-production process of fisheries products in order to provide added-value to the product</li> </ul>	assistance
10	<b>Agriculture and Marine Agency – 23/04/2018</b>	<ul style="list-style-type: none"> <li>• Follow up to the previous Focus Group Discussion on Potential Adaptation Actions</li> <li>• Assessing potential for collaboration during program implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Aquaculture in the form of Venamei shrimp is highly feasible in eastern area of Pekalongan City. At the moment its development is hindered by financial and technical constraint</li> <li>• Western area of Pekalongan City are more suitable for aquaculture in the form fish and seaweed</li> <li>• Construction of coastal embankment should consider its impact to water flow in area behind the embankment. Will it affect community's pond?</li> </ul>	<ul style="list-style-type: none"> <li>• The proposed program will take account information on potential location for adaptation actions</li> <li>• The proposed alternative livelihood will be complemented with apt technical assistance (work in collaboration with Agriculture and Marine Agency), including those related to marketing context</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			<ul style="list-style-type: none"> <li>•At the moment, community still focusing in selling fresh fisheries product. It is expected that they could sell secondary product to increase the selling price. Technical assistance is needed on this matter, including marketing access and campaign (ways to introduce new products to community)</li> </ul>	
11	<b>Focus Group Discussion on Gender Aspect with Women Group's Representative – 29/04/2018</b>	<ul style="list-style-type: none"> <li>•To assess how women's group perceived and deal with the impact of coastal flooding on their daily life</li> <li>•To identify adaptation strategies for women affected by climate change</li> </ul>	<ul style="list-style-type: none"> <li>•Not all women are house-wife, some of them also have permanent jobs.</li> <li>•Community meeting often held in the evening where most women have other responsibilities at home</li> <li>•Coastal flooding have become a burden for them since they have to clean their house from flood water in daily basis on top of their other formal works and household responsibilities</li> <li>•The program should consider not only physical disruption of the area but also mental state of the affected people</li> <li>•Training on alternative livelihood is very much welcome but need to be complemented with capital and marketing</li> </ul>	<ul style="list-style-type: none"> <li>• Proposed program structure will include gender perspective within, for instance in the PMU structure, meeting and training design (including timing for the meeting), potential adaptation actions that also considered mental status of the targeted beneficiaries, and also alternative livelihood for women group</li> <li>•The impacts of climate change are felt by women, especially as they are in daily life more dependent on natural resources that are exposed to climate change impacts.</li> <li>•Their limited mobility often constraint and limit their capacity to cope with the effects of climate change.</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			support (particularly in the beginning)	<ul style="list-style-type: none"> <li>•Women participating in the FGD have played a role and have the potential to become effective actors or agents of change related to climate change adaptation. They have basic knowledge and skills that can be utilized in adaptation strategies.</li> <li>•When responding to the impacts of climate change, establishing gender-sensitive strategies is critical to ensure the rights of women affected by climate change can be met, including in terms of access to resources and their participation in the decision-making process. Some women have often been included in decision-making regarding responses to climate change impacts. However, this situation needs to be improved in order to be more equitable, as these participants (mostly) are indeed women who are actively organizing or even formal leaders (one of them is the Chief Village) in their respective villages.</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
				<ul style="list-style-type: none"> <li>•Information related to the role of Women Affected by Climate Change can be used to address knowledge and data gaps related to the vulnerability and impacts of climate change on women and to accelerate learning on effective gender adaptation measures and strategies.</li> <li>•It is necessary to rebuild consultation rooms for the affected women consultation to better explore their knowledge, skills and experience in the process of implementing adaptation action in Pekalongan City</li> </ul>
12	<p><b>City Stakeholder Focus Group Discussion on Framework and Potential Implementation of The Proposed Program – 20/07/2018</b></p> <p>Attended by village leader, local NGO, academicians and local government representatives</p>	<ul style="list-style-type: none"> <li>•To disseminate and reach an agreement on the proposed program's framework and activities</li> <li>•To disseminate potential risks associated with program implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Clarification that river flooding is the main cause for inundation at Tirto Village</li> <li>•The stakeholder agreed on the proposed implementation area and the selected adaptation actions</li> <li>• The stakeholder believes that program implementation should focus not only on action implementation, but also strengthening stakeholder capacity, building knowledge management and advocacy process to</li> </ul>	<ul style="list-style-type: none"> <li>• Tirto village will not be included as implementation area at village level; and thus Implementation at village level will only cover 8 villages, they are: Degayu, Krapyak, Panjang Wetan, Panjang Baru, Kandang Panjang, Padukuhan Kraton, Bandengan and Pasirkraton kramat</li> <li>•Adaptation actions and implementation location proposed within the proposal are the results of</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			<p>higher government level</p> <ul style="list-style-type: none"> <li>• City stakeholders committed to support program implementation should the proposal is approved</li> <li>• City stakeholders are made aware and understand on the potential risks associated with the program from the communication of ESMP draft during the event</li> </ul>	<p>consultation and agreement with the relevant stakeholders, including local community and local government institutions. For instance, eco-tourism site is agreed by Tourism Agency and coastal embankment is agreed by BAPPEDA.</p> <ul style="list-style-type: none"> <li>• Framework for the proposed program is focusing on 4 aspects: Capacity development, Adaptation Action, Knowledge Management and Advocacy; in which those aspect will be exercised in 4 governance level</li> <li>• Initial commitment and support acquired from the city stakeholders; a significant capital for program commencement</li> </ul>
<b>D</b>	<b>Village Level</b>			
<b>1</b>	<b>Leader of Farmers Group “Tani Makmur”</b> in Bandengan Village - 21/03/17	<ul style="list-style-type: none"> <li>• To gain information on the condition of social, cultural and community institutions as well as the impact of a tidal flood disaster in the village.</li> </ul>	<ul style="list-style-type: none"> <li>• The clearer picture of the condition of the village areas affected by tidal flood.</li> <li>• Gathered information on village profiles, groups and community conditions, of which the stories told by the farmer pretty much corroborated the earlier information</li> </ul>	<ul style="list-style-type: none"> <li>• Direct observation on the areas of Bandengan village affected by tidal flood disaster.</li> <li>• Was shown a business development proposal written by the farmers group for fish and seaweed cultivation in Bandengan village.</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			<ul style="list-style-type: none"> <li>received from BINTARI.</li> <li>Information on community activities plan in adapting to the tidal flood disaster.</li> </ul>	<ul style="list-style-type: none"> <li>Bandengan community's support for Kemitraan's planned activities for the village.</li> </ul>
2	<b>Community group of Degayu Village - 22/03/17</b>	<ul style="list-style-type: none"> <li>To gain information on the condition of social, cultural and community institutions as well as the impact of a tidal flood disaster in the village.</li> </ul>	<ul style="list-style-type: none"> <li>The clearer picture of the condition of the village areas effected by tidal flood.</li> <li>Gathered information on village profiles, groups and community conditions.</li> <li>Information on community activities plan in adapting to the tidal flood disaster.</li> </ul>	<ul style="list-style-type: none"> <li>Direct observation on the areas of Degayu village effected by tidal flood disaster.</li> <li>Degayu community's support for Kemitraan's planned activities for the village.</li> </ul>
3	<b>Head of Tirto Village and the Community group - 23/03/17:</b>	<ul style="list-style-type: none"> <li>To gain information on the condition of social, cultural and community institutions as well as the impact of a tidal flood disaster in the village.</li> </ul>	<ul style="list-style-type: none"> <li>The community income mainly come from Batik (Batik artists) which are mostly home industry, and factory workers.</li> <li>Like Bandengan, they lost their rice farming to tidal floods.</li> <li>Whenever the tidal floods occur they cannot continue with their livelihood, they had to wait until it subsided, which could take up to weeks.</li> <li>One of the source of tidal floods was the river Brengi that goes through the village, and the shallow structure of the river also cause the puddles however, pumping out the water has not always been effective, especially</li> </ul>	<ul style="list-style-type: none"> <li>Direct observation on the areas of Tirto Village effected by tidal flood disaster.</li> <li>Tirto community's support for Kemitraan's planned activities for the village.</li> </ul>



No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			when water hyacinth populate the river too much.	
4	<b>Degayu Community</b> – 21/04/2018	<ul style="list-style-type: none"> <li>•Follow up to the previous Focus Group Discussion on Potential Adaptation Actions</li> <li>•Assessing potential adaptation actions that can be implemented in the village based on their issue and needs</li> </ul>	<ul style="list-style-type: none"> <li>•The existing geoutube had been able to protect the area to some extent, but its height considered as not sufficient enough for an effective protection. At the moment, the construction had been destroyed due to the construction and operation of small scale shipyard behind the geoutube line</li> <li>•Vennamei shrimp is highly potential to be cultivated in Degayu, but the community needs capital and technical support for this. Most of the successful shrimp farmer in Degayu are supported by investor</li> <li>•Traditional shrimp pond which operated without investor often experience failed harvesting due to improper water and feedstock management (lack of financial and technical capacity to properly managed the pond)</li> <li>•Groundwater extraction believed as contributing to the severity of coastal flooding impact in Pekalongan City</li> <li>•Community empowerment is</li> </ul>	<ul style="list-style-type: none"> <li>•Adaptation action in Degayu will be focusing on structural shoreline protection and alternative livelihood with adequate technical and financial support</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			important, for instance by implementing community-based eduecotourism in Degayu	
5	<b>Kandang Panjang Community – 21/04/2018</b>	<ul style="list-style-type: none"> <li>•Follow up to the previous Focus Group Discussion on Potential Adaptation Actions</li> <li>•Assessing potential adaptation actions that can be implemented in the village based on their issue and needs</li> </ul>	<ul style="list-style-type: none"> <li>•Since their productive land is mostly affected by coastal flooding, some Kandang Panjang community now have unsteady jobs. They get additional income by catching fish and crab in their free time</li> <li>•Some Kandang Panjang community have joined as Community Supervising Group member that work in collaboration with city government in operating Mangrove Information Center (eduecotourism managed by city government)</li> <li>•Crab fattening activities are the most desired livelihood for the community, however the said activity need large capital</li> </ul>	<ul style="list-style-type: none"> <li>•Fisheries sector remains the primary economic activity option for Kandang Panjang community</li> </ul>
6	<b>Fisheries Product Collector in Bandengan Village – 22/04/2018</b>	<ul style="list-style-type: none"> <li>•Assess supply chain for fisheries product and potential for collaboration</li> </ul>	<ul style="list-style-type: none"> <li>•Receive product from 4 villages</li> <li>•Crab is the largest commodity, while other product that also collected are shrimp and different species of fish</li> <li>•Most of the commodity are sold to large scale collector in other cities (majority to Pemalang,</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for collaboration in crab fattening activities if desired by Kandang Panjang community</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			and then Batang and Jakarta in that order). Most of the large scale collector then sold the product to Jakarta. Locally sold commodity is mostly shrimp <ul style="list-style-type: none"> <li>•Provide crab seed for crab fattening and willing to buy back the large products</li> </ul>	
7	<b>Fisheries Product Collector in Degayu Village – 22/04/2018</b>	<ul style="list-style-type: none"> <li>•Assess supply chain for fisheries product and potential for collaboration</li> </ul>	<ul style="list-style-type: none"> <li>•Receive product from Degayu and Batang Regency</li> <li>•Vennamei shrimp is the largest commodity, while other product that also collected (at a small scale) are different species of fish</li> <li>•Most of the commodities are sold to large scale collector in other cities (majority to Pemalang, and Batang). The large collector often sold the product to Jakarta.</li> <li>•Did not supply locally</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
8	<b>Bandengan Community – 24/04/2018</b>	<ul style="list-style-type: none"> <li>• Follow up to the previous Focus Group Discussion on Potential Adaptation Actions</li> <li>•Assessing potential adaptation actions that can be implemented in the village based on their issue and needs</li> </ul>	<ul style="list-style-type: none"> <li>•Majority of Bandengan community works as labour, only around 10% works as fishermen since most of their productive land are permanently inundated or cannot cope with the strong current</li> <li>•Historically, Bandengan community works as farmer instead of fishermen, hence they would prefer to be</li> </ul>	<ul style="list-style-type: none"> <li>• Actions in Bandengan village will be focusing in increasing community's adaptive capacity by providing alternative livelihood and addressing water and sanitation issue</li> </ul>

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			<p>equipped with agricultural land instead of pond</p> <ul style="list-style-type: none"> <li>•Women groups are highly interested in processing fisheries product, but they impeded by capital issue and low technical information</li> <li>•Despite the need for physical intervention to address coastal flooding issue, the community also need emotional assistance</li> <li>•Bandengan community also face water scarcity issue since clean water piping network in the area is either broken or submerged</li> </ul>	
9	<b>Secretary of Bandengan Vilalge – 24/04/2018</b>	<ul style="list-style-type: none"> <li>•Follow up to the previous Focus Group Discussion on Potential Adaptation Actions</li> <li>•Assessing potential adaptation actions that can be implemented in the village based on their issue and needs</li> </ul>	<ul style="list-style-type: none"> <li>•Fisheries is not the main economic sector in Bandengan. Most of the fisheries product are Bandeng and seaweed</li> <li>•Despite their housing area are permanently inundated, relocation or resettlement is out of question. City government have provided City-owned Apartment, but only the young family who are willing to move there. Hence the city and village officials are mostly focusing on reconstruction of low quality housing</li> </ul>	<ul style="list-style-type: none"> <li>•Actions in Bandengan village will be focusing in increasing community's adaptive capacity by providing alternative livelihood and addressing water and sanitation issue</li> <li>•Resettlement will not be considered in the program</li> </ul>



Consultative meeting with “Tani Makmur” Farmer’s group



Consultative meeting with Bappeda Pekalongan City

The voice of women and vulnerable groups had been taken into account during initial consultation and full proposal development process. In initial consultation, their input was drawn during village level consultation; where the groups are represented by the Tirto Village and Degayu Village community groups and also Tani Makmur Group (farmers group). The follow-up to their input is reflected on the initial design of the program that placed them amongst the targeted beneficiaries that will be exposed to different activities aiming to reduce their vulnerability and increase their resiliency. During full proposal development process, a specific FGD on gender issue is conducted to assess what gender issue occurs in the community and how it will shape the program design and implementation are conducted at city level; in which the results are shown on table above.

To follow up initial consultation, individual consultations were conducted with Bandengan, Kandang Panjang and Degayu community representatives. So in total, 4 villages were consulted individually in concept and proposal development process, which are: Tirto, Bandengan, Kandang Panjang and Degayu Village; meanwhile the representatives of other villages were unable to be met individually. However they, -including the women group representative-, attended and actively participated in the 3 (three) separate Focus Group Discussion events discussing:

- Potential Adaptation Activities at Village and City Level;
- Gender Aspect; and
- Framework and Potential Implementation of the Proposed Program. ]

One issue being raised by the former Pekalongan City Mayor during consultation process is on land ownership issue. This issue is deemed as could hinder mangrove restoration activity under the program. To address this land ownership issue, the PMU will conduct training on climate adaptation action and coastal resilience, where among the training material will be the importance of mangrove restoration for coastal protection, including for protecting their dwelling and livelihood. This training is expected as will build their knowledge and awareness on mangrove function. Furthermore, at the moment the discussed land is considered as

unproductive land; not being used for any purposes. Planting mangrove in the area thus will not results in economic loss for the community, instead benefit them by protecting their area. This benefit will also be communicated during training activities. As per Pekalongan District area, mangrove restoration activity is planned to be implemented in only Pekalongan City area; and thus there will be no land ownership conflict with Pekalongan District government on this issue.

**I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning**

Component	Baseline	Additional (with AF)
<b>Village Level</b>	<ul style="list-style-type: none"> <li>Local actors have limited capacity to prepare for and respond to climate change and natural hazards</li> <li>The most vulnerable areas and groups receive limited infrastructure support and no targeted object to receive resilience building support because of limited capacity and resources.</li> </ul>	<ul style="list-style-type: none"> <li>Local actors and communities are enabled to prepare for and respond to climate change and natural hazards</li> <li>The vulnerable groups in coastal areas are targeted and appropriate resilience measures</li> </ul>
<b>City Level</b>	<ul style="list-style-type: none"> <li>Lack of capacity of the local governments officer and related stakeholders to lead climate change adaptation and disaster risk reduction plan</li> <li>The most vulnerable communities are not targeted/reached</li> </ul>	<ul style="list-style-type: none"> <li>Local governments and related stakeholders can lead climate change adaptation and disaster risk reduction plan</li> <li>The most vulnerable communities are the main beneficiaries of the project</li> </ul>
<b>Province Level</b>	<ul style="list-style-type: none"> <li>Lacking capacity of provincial government officer to put forward climate change adaptation issue in development plan as well as incapability to lead by example in mainstreaming the issue</li> </ul>	<ul style="list-style-type: none"> <li>Provincial government officers have the capacity to promote climate change adaptation action plan and mainstream the said plan into development plan, setting out example and support all cities and regencies within its administrative region to do the same</li> </ul>

Component	Baseline	Additional (with AF)
<b>National Level</b>	<ul style="list-style-type: none"> <li>• SIDIK unable to appropriately and accurately assess the vulnerability and risk of coastal region</li> <li>• Adaptation programs planned at ministry level (national level) often incompatible with the needs of adaptation actions at city/local level</li> </ul>	<ul style="list-style-type: none"> <li>• SIDIK is improved and able to appropriately assess vulnerability and risk of area that has coastal characteristics</li> <li>• Ministries and local government collaborate and cooperate to implement the appropriate adaptation actions</li> </ul>

**J. Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project / programme.**

As mentioned in the previous section of this proposal, this program is aiming to address multifaceted issue in coastal area, specifically those related to climate change impact; fostering coastal resilience building in the area. Seeing the considerable benefit trying to be achieved by the program, it is thus important to ensure the sustainability of the program in order to spread out the benefit to wider community. Approach taken for this program rely heavily on stakeholders involvement and collaboration, hence the derived activities for those two aspects are designed to ensure the program's sustainability.

**Building Sense of Ownership at Village and City Level**

Ownership is one notion that could warrant sustainability. A sense of ownership would drive a person to maintain the continuity of something they own. For the purpose of this program, sense of ownership on the adaptation actions will be built gradually through high involvement of the stakeholders from the beginning of the program by establishing working group that is legalized, continued with providing series of trainings and workshops, and also actively involving them in risk assessment and action plan development process. Their support and commitment will not be built instantly, but in incremental manner. It is expected that with the increasing knowledge on the issue, their level of support and commitment will simultaneously increasing; especially during the implementation stage of adaptation plan. Once they experience the benefit of the project, their sense of ownership will be increased; driving them to maintain the continuation of the plan.

- **Village Level**

At village level, benefit arises from the existence of adaptation actions and the alternative livelihood will directly affect community's life in tangible manner. Their financial capital will be strengthened from the combination of increases of income and decreases of disaster-related expenses. Their income will increase from the alternative livelihood and better management of the fishing practices, while their physical environment will be better protected from coastal hazards such as coastal flooding, and thus reducing their household expenses in dealing with this such hazard. To further

ensure the sense of ownership will always be maintained, a local NGO will continue to work closely with village working group to share their knowledge on the issue, including on matters relevant to new alternative livelihood. This local NGO is a member of city team and have been working with the targeted local community for a period of time, and thus they will be committed to maintain the program's outcome in the targeted area.

- **City Level**

Meanwhile for the city, these actions and livelihood will increase their GDP from fisheries and tourism sector as well as reduce their expenses in infrastructure repair/rehabilitation due to coastal-related hazard. Seeing how the activities positively affect their GDP, the local government will be driven to maintain the existing activities and further replicate/scale-up the activities in other location within their administration area.

### **Knowledge Platform Establishment and Engagement**

Multi-stakeholder involvement and knowledge platform engagement within the program is also designed to allow program sustainability. It enables knowledge to be disseminated to diverse actors, and not only one single entity. Allowing projects and lessons learned to be disseminated, replicated and even expanded. The existence and operationalization of this platform will support the effort in building a sense of ownership to the program and its benefit. The more people take ownership, the more sustainable the program will be. Concurrently, the sustainability of this platform will be maintained.

- **City Level**

The local knowledge platform (PIM) will play a major role at city level in disseminating knowledge product and program benefit to wider city stakeholders. This role will support in building a sense of ownership to the actions and alternative livelihood produced under the program. During the implementation stage, particularly the workshop series, the program will build the sense of need and importance of this platform as a knowledge sharing media by emphasizing the significance of regular multi-stakeholder discussion in addressing climate change impact in their area. The stakeholders will also be trained to share their relevant achievement and issues in this platform. Having built their sense of need and issue/knowledge sharing habit, it is expected that in future time, they will turn to this platform if they encounter opportunities and/or threat to the adaptation actions and alternative livelihood.

- **National Level**

National knowledge sharing platform (ICA) has been established and actively operationalized prior to the program development. Throughout the course of the program, an active communication and discussion will be conducted with the platform to advocate lessons learned from local experience in Pekalongan City as well as on common interests. During the program period, the program will apply as the platform member. This membership will end after the program ended, and the advocacy for Pekalongan City lessons learned and interest will be taken over by APEKSI who is also ICA member. APEKSI is the national association for city government in Indonesia, where Pekalongan City is among the member.



The program design chooses to apply directly as ICA member during the program period, instead of advocating the relevant issue through APEKSI that will subsequently take it to ICA. Furthermore, the program active involvement in ICA will nurture a better relation between the city and APEKSI; fostering a better transition to hand-over Pekalongan City interest to APEKSI after the program ended.

### **Program Mainstreaming at City Level**

Other means to ensure program sustainability rely on government involvement. Mainstreaming the adaptation options (including M&E activities and climate risk assessment) to city development and spatial plan is believed as the most effective sustainability strategy at city level. Aside from community, this program place government institutions as the core subject. Facilitating the government officials to properly develop and mainstream climate strategy and adaptation action into local development plan is part of the sustainability design. A successful mainstreaming process will provide the adaptation actions with budget allocation, not only funding for initial construction in other area (replication), but also regular maintenance (for actions implemented under the program and replication). The term mainstreaming here means that the actions are included in the local government development plan; allowing them to be provided with budget allocation and maintained annually (or replicated in other area as long as it's the same actions). This means that the activities will be able to be continued in future time even after the AF-funded program period ended. In addition to that, this program will also drive related regular activities, such as relevant M&E and risk assessment updating, to be mainstreamed in the city development and spatial plan. This will further ensure the program sustainability in long term. During the program period, the action will still be conducted under the program umbrella but in parallel, PMU will advocate the adaptation action to the local government to enhance their awareness on the benefit of the action; driving them to preserve and replicate the action. Local government institution that will be the advocacy target might be different for each action, depending on the work area of the said institution. Coastal embankment will be advocated to BAPPEDA, Mangrove restoration, aquaculture and farm pond will be advocated to Agriculture and Marine Agency; sanitation facilities will be advocated to Public Works Agency and Environmental Agency; while eco-tourism will be advocated to BAPPEDA and Tourism Agency.

### **Replication of Financial Access Scheme on Alternative Livelihood**

The vulnerable groups that will be introduced to alternative livelihood are categorized as low level economic groups. Based upon this fact, a selected adaptation option and alternative livelihood at city level will be complemented with piloting of financial access scheme. For example, micro loan for Vennamei shrimp farming in targeted villages or micro loan for women-headed household that will produce mangrove honey in the targeted villages.

Following the completion of Climate Risk Assessment at village level, a feasibility study (which includes Cost Benefit Analysis within the study) will be done to the list of adaptation options to select 1 adaptation action (non-livelihood) and 2 alternative livelihood options that determined as suitable and feasible to be complemented by the scheme; along with the potential pilot locations. Among aspects to be assessed within the feasibility study are ease of implementation, scale of beneficiaries as well as community's interest. Succeeding the study,

selection process will be conducted to determine the proper pilot location. Climate Risk Assessment results will be utilized as the main source of information to select the appropriate pilot locations from the potential locations list obtained during the feasibility study process. It is targeted that there will be 6 pilot locations for alternative livelihood and 9 locations for non-livelihood adaptation action.

The pilot financing scheme itself will be in the forms of micro loan and revolving fund, in which the fund will be managed by local financial institution or city-owned enterprises. The fund is expected to cover 15 aquaculture/farm pond projects. Since it will be a revolving fund, hence after the program ended, the selected financial institutions could still continue this practise.

Based on preliminary assessment, there are 3 (three) potential institutions that could manage the fund, which are:

- Central Java Province Bank  
A government bank with Central Java Province as their working area. In comparison to the other two institutions, this particular bank has the highest experience and financial capacity to manage large amount of fund
- Bank Perkreditan Rakyat of Pekalongan City (BPR)  
A government bank with Pekalongan City as their working area. This bank is focusing its work in providing loan for Pekalongan City's community, so that they could start and operationalize their business. BPR client is highly diverse in terms of gender and business type.
- Credit Board of Pekalongan Utara Sub-district (BKK)  
BKK is a smaller scale of BPR, where it works in sub-district scope (instead of city scope such as BPR). This board is categorized as city-owned enterprise. In terms of its services, similar to BPR, they also provide micro loan at low interest rates to community that intended to open up a new business or those who need additional capital. In comparison to BPR,

The above potential institutions have an ample experience and managerial capacity to manage the revolving fund. However, decision on which institution will manage the fund will be depending on financial assessment process conducted by Kemitraan and PMUy during the program implementation phase.

The selected financial institutions, together with PMU will create a set of criteria that should be completed by applicants that wish to access the fund. Among the criteria are:

- Existence of identification card
- Village recommendation on the proposed business
- Annual income from the business
- Land ownership status of the business location
- Etc.

During the course of the program, this pilot financing scheme will be evaluated and further improved for replication. This livelihood will not be sustainable if only relying on capital access; market access is also a critical point. The program will work closely with two relevant Pekalongan City Agencies, which are the Industry, Trading, Cooperation and Micro-Small-

Medium Enterprise Agency and the Agriculture and Marine Agency to open up market access for the alternative livelihood; so that the community could supply their product to the market. Furthermore, the Agriculture and Marine Agency of Pekalongan City have an on-going technical assistance program for community groups on post-production process for fisheries products. However due to limited capacity of the experts, added with low government resources to search for market access for the products, this technical assistance program was deemed as ineffective. The agency believes that the existence of this program will be a significant driver to increase the effectiveness of the program by introducing new approach and new set of skills.

In parallel, the implementer will also advocate the integration of alternative livelihood and its complementing financial scheme into the annual local development plan of Pekalongan City, particularly to the two aforementioned Agencies' program. This such integration will in one way ensure that 'someone' will maintain the continuation of the livelihood. Yet, the main aspect that will ensure the livelihood sustainability is how to attract the interest of the community itself by providing financial (in forms of capital) and technical assistance for them to start their business, which at the moment is considered as lacking.

### **Exit Strategy Development**

All in all, this program believed that maintaining the program sustainability cannot rely solely on funding allocation, but also involving stakeholders to take part in the maintenance and dissemination stage. Pursuing funding allocation is somewhat a futile effort if not complemented by the existence of someone who protects and preserves the results. Combination of the above efforts at different government level will ensure the sustainability of the program output and outcome in long-term period. These efforts will be combined and translated into an exit strategy plan which will be included in the M&E documents of the program.

### **K. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project / programme.**

Environmental and Social Impact Assessment has been conducted for the program to assess potential risks arising from program implementation. The assessment was carried out by considering nationally applicable standard in risk assessment as well as compliance to AF Environmental and Social Principles. The assessment results are as below.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
<i>Compliance with the Law</i>	-	<p>The program is designed in compliance with all applicable national, regional and local law, including:</p> <ul style="list-style-type: none"> <li>• Law Number 32/2009 on Environmental Protection and Management.</li> <li>• Government Regulation Number 27/2012 on Environmental Permit and Environmental Impact</li> </ul>

		<p>Assessment</p> <ul style="list-style-type: none"> <li>• Ministry of Environment Regulations Number 5/2012 on Types of Activities that Needs to be Equipped with Environmental Impact Assessment</li> <li>• Ministry of Public Works and Housing Construction and Development Standard</li> </ul> <p>However, additional permit and compulsory assessment still need to be obtained and undertaken for specific adaptation actions that will be implemented in future time within the program timeframe; particularly for actions listed in the Ministry of Environment Regulation No. 5/2012. For the proposed program, the selected adaptation actions do not falls under the category of activities that need to be equipped with Environment Impact Assessment. Yet, the PMU will ensure that all activities implemented, particularly those related to structural construction (sanitation facilities, coastal embankment, will prevent negative impacts to the surrounding environment by adhering to Law 32/2009 and also Housing Construction and Development Standard from the Ministry of Public Works</p> <p><u>Potential risks:</u> Disruption of physical environment from mobilization and construction process of adaptation actions</p> <p><u>Requirements and Managements:</u></p> <ul style="list-style-type: none"> <li>• Prepare the necessary environmental management plan for each activity listed in ESMP.</li> <li>• Mitigation measures for the impacts are stated in the Environmental and Social Management Plan (Annex xx).</li> </ul>
<i>Access and Equity</i>	-	<p>The program is designed to ensure fair allocation of access to the community, including in information dissemination. To further disseminate knowledge related to the program, knowledge board will be built in community centre or village office; making it accessible to all community.</p> <p>Participatory approach employed by the</p>

		<p>program will further ensure access and equity principle being undertaken during program implementation.</p> <p>One issue being raised during FGD on Gender Issue conducted during the proposal development stage is workshops and meetings timing that should be done at night time to ensure women's group participation in the process. This issue will be taken into account when designing the relevant activities to ensure all groups have similar access to program information and implementation process.</p> <p>Despite the effort in ensuring access and equity principle being carried out within the program, there still a minor potential social risks that could arise during program implementation.</p> <p><u>Potential risks:</u></p> <p>Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood at village and city level implementation.</p> <p><u>Requirements and Managements:</u></p> <ul style="list-style-type: none"> <li>Stakeholder mapping as the basis for assessment on implementer selection, fair role and responsibilities among stakeholders, and also activities site location (including knowledge board location) that could benefit wider community</li> <li>Mitigation measures for the impacts are stated in the Environmental and Social Management Plan (Annex xx).</li> </ul>
<i>Marginalized and Vulnerable Groups</i>	-	<p>Marginalized and vulnerable groups are the targeted beneficiaries of the program. They will not only act as the passive actor within the program, but also actively involved in the program implementation.</p> <p>The proposed program will employ participatory approach, particularly at local level, by involving women groups, most vulnerable groups and community representative from different socio-economic level during training, discussion forum and risk assessment process. The planned adaptation actions and alternative livelihood also designed by taking into</p>

		<p>account their interests.</p> <p>However, there still a minor potential social risks that could arise during program implementation.</p> <p><u>Potential risks:</u></p> <ul style="list-style-type: none"> <li>• Social conflict arising from selection of priority activities site and design (at village and city level implementation) which could raise envy from other community member that will not directly exposed to the program</li> </ul> <p><u>Requirements:</u></p> <ul style="list-style-type: none"> <li>• Social impact assessment and management plan on potential adaptation actions during prioritization process. Pro-poor actions (action that could benefit those who have the least economic adaptive capacity but has a high exposure to climate risk) should be among the priority</li> <li>• Adaptation action design (the site location and structural design for hard structure) that take account the needs and suitability for elderly, children groups, and disable groups; to ensure they can experience the benefit</li> <li>• Mitigation measures for the impacts are stated in the Environmental and Social Management Plan (Annex xx).</li> </ul>
<i>Human Rights</i>	<p>The proposed program is intended to elevate the quality of life of the beneficiaries (including marginalized and vulnerable groups) by creating a better environment for them (physical, social and economic environment).</p> <p>Furthermore, The Republic of Indonesia has ratified The International Covenant on Economic, Social, and Cultural Rights into Law Number 11/2005 and International Covenant on Civil and Political Rights into Law Number 12/2005. The proposed program will adhere to these laws and ensure that Human Rights principles are being carried out throughout the course of the program.</p>	None
<i>Gender Equity and Women's Empowerment</i>	<ul style="list-style-type: none"> <li>• The Republic of Indonesia has ratified the Convention on the Elimination of All Forms Against Women/CEDAW into Law Number 7/1984. Hence the proposed</li> </ul>	None

	<p>program will comply with this law and also other applicable national law on Gender Equity and Justice.</p> <ul style="list-style-type: none"> <li>• Women groups will be an active participant in the program, where their representative will be selected as Village Working Group member.</li> <li>• The program is designed so that trainings on economic livelihood will involve female participant; to ensure they will receive economic benefits from the actions</li> <li>• There is no risk that the husbands will object their wives new livelihood since it will support their household economy</li> </ul>	
<i>Core Labour Rights</i>	<p>Relevant to labour rights, the nationally applicable regulations are as below:</p> <ul style="list-style-type: none"> <li>• Law No. 80 of 1957 concerning Ratification of ILO Convention No. 100 on Equal Remuneration for Men and Women Workers for Work of Equal Value</li> <li>• Law No. 7 of 1984 concerning Ratification of the Convention on the Elimination of All Forms of Discrimination Against Women;</li> <li>• Law No. 21 of 1999 concerning Ratification of ILO Convention No. 111 regarding Discrimination in Employment and Occupation.</li> <li>• Law No. 13 of 2003 on Manpower</li> </ul> <p>Accordingly, labour works done under this program will adhere to the above laws, including payment issue. Additionally, the program will also ensure that it will comply with ILO Convention No. 138 and 182 on Child Labour, by assuring that there will be no child labour involved in the program.</p> <p>The program will not pose any risk on labour right since it will equipped the community member with additional skills</p>	None
<i>Indigenous Peoples</i>	<p>Community resides within the geographical scope of the proposed program came from similar ethnicity, and has a well-established social norm. Accordingly, there is no risk related to indigenous people for this proposed program</p>	None
<i>Involuntary Resettlement</i>	Resettlement for community who	None

	<p>resides in permanently inundated area is issue that had been raised in the past, but put on hold due to local government budget constraint.</p> <p>During the full proposal development stage it has been agreed with the city stakeholders (including government and community) that resettlement will not be a part of the proposed adaptation actions. Hence there is no risk of involuntary resettlement for the program.</p>	
<i>Protection of Natural Habitats</i>	-	<p>As a coastal area, protection of natural habitat is essential to be taken throughout the course of the program. Mangrove, the natural habitat for fish and shell fish, has been the green belt for Pekalongan City shoreline for the past decade, protecting the area to a certain extent from sea-related risk. However, mangrove condition in the area has been degraded in the past years.</p> <p><u>Potential risks:</u></p> <p>Minor natural habitat disruption from aquaculture preparation activity, mangrove restoration process, as well as mobilization and construction process of coastal embankment, eco-tourism site and communal sanitation facilities</p> <p><u>Requirements:</u></p> <ul style="list-style-type: none"> <li>• Environmental Management and Monitoring Plan for the abovementioned activities</li> </ul> <p>Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on natural habitat protection to ensure there will be no adverse impact to natural habitat from the activities' implementation</p>
<i>Conservation of</i>	-	Coastal resilience aimed by this proposed



<i>Biological Diversity</i>		<p>program is not only focusing on human resilience, but also considering the corresponding biodiversity.</p> <p><u>Potential risks:</u></p> <p>Minor environmental and ecological disruption from hard and/or soft structure construction (coastal embankment, mangrove belt, eco-tourism site and communal sanitation facilities) and alteration of resource management (introduction of shrimp and fish species to body of water)</p> <p><u>Requirements:</u></p> <ul style="list-style-type: none"> <li>• )</li> <li>• Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA; including for activities that are related to the introduction of foreign and invasive species; how the said species will survive and interact in a new environment (e.g. Vennamei shrimp)</li> <li>• The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other</li> </ul>
<i>Climate Change</i>	Activities under the proposed program will not significantly contribute to the increase of greenhouse gas emission or other climate change drivers	None
<i>Pollution Prevention and Resource Efficiency</i>	-	<p><u>Potential risks:</u></p> <ul style="list-style-type: none"> <li>• Water pollution from hard and soft structure construction (coastal embankment, eco-tourism site, mangrove belt and sanitation facilities), existing agriculture and farming practices, alteration of resource management (introduction of shrimp and fish species to body of water), and also by product from alternative livelihood and sanitation facilities'</li> </ul>

		<p>effluent</p> <ul style="list-style-type: none"> <li>Sedimentation due to accumulation of fish feed in brackish water fishery</li> </ul> <p><u>Requirements:</u></p> <ul style="list-style-type: none"> <li>Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA</li> <li>Assessment on a more environmentally friendly farming and fishing method/practices</li> </ul>
<i>Public Health</i>	There is no risk to public health from the program. The program activities will continually be ensured for not placing community's health and safety in dangerous state by adhering to the relevant applicable laws and regulations	None
<i>Physical and Cultural Heritage</i>	There is no risk to physical and cultural heritage from the program since there is no physical and cultural heritage located within the geographical scope of the proposed program.	None
<i>Lands and Soil Conservation</i>	-	<p>Inundation from coastal flooding in the targeted program area has resulted in adverse impact, transforming productive land into unproductive one. This proposed program aims to reduce the inundated area, preventing them from turning into unproductive land by implementing diverse adaptation measures.</p> <p><u>Potential risks:</u></p> <ul style="list-style-type: none"> <li>Soil pollution from hard and soft structure construction (coastal embankment, eco-tourism site, and sanitation facilities), , by product from alternative livelihood, effluent of sanitation facilities (non-floating design)</li> </ul> <p><u>Requirements:</u></p> <ul style="list-style-type: none"> <li>Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA</li> <li></li> </ul>

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Based on the assessment above, can be seen that the program implementation has several potential risks that are considered as minor, small scale (limited impacts and not widely spread) and easily mitigated. These risks can be avoided by implementing adequate mitigation measures. With regards to Risk Categorization of AF, the program can be categorized as “**Category B**” where it has potential adverse impacts but in small number, small scale, not widespread and easily mitigated.

In this proposal, the mitigating measures has been incorporated into Environmental and Social and Management Plan (Annex xxx) that will be implemented and utilised by the program to mitigate the potential risks and also ensure the compliance of program implementation to AF Environmental and Social Policy.

## PART III: IMPLEMENTATION ARRANGEMENTS

### A. Adequacy of project/programme management arrangements, in compliance with gender policy

Institutional structure and arrangement for the program is developed by considering that it will be implemented in an interconnected manner at 4 (four) different government levels (village, city, province and national). Accordingly, the institutional structure should allow an effective coordination and communication mechanism, both horizontally (within each level) and vertically (across different level).

To implement the program, a Project Management Unit (PMU) will be established with main responsibility of managing and implementing different component under the proposed program and ensuring the implementation is in line with the program frameworks, including its targeted goal and objectives. Kemitraan as the National Implementing Entity will act as the Executing Entity in this program, and will be responsible in developing the PMU and assisting them in managing and implementing the program as a whole. Accordingly, the PMU will be located under Kemitraan with majority of the staff will be hired in full time basis to solely implement this proposed program. The term majority is use here considering that one particular staff, which is the finance/admin manager, will not be working full time for the proposed program. The finance/admin manager will be Kemitraan staff, and has responsibility to other duties outside the proposed program. This part-time basis for finance/admin manager is chosen since his/her salary is shared between the proposed program and Kemitraan core fund

The PMU will be led by a Project Team Leader that will be supported by technical and administrative staff. Relevant to this multi-level government approach, staffing under the PMU will be made available to serve activities at 4 government level. Figure 8 will illustrate the Institutional Structure for the Program, including the Project Management Structure of the PMU. Table 5 will outline the roles and responsibilities of each position within the structure.

**Figure 8. Institutional Structure for the Program**

**Table 5. Roles and Responsibilities within the Institutional Structure**

Position	Roles and Responsibilities	Additional Remarks
Steering Committee	The SC will oversee the whole program implementation to ensure that the means and mechanisms are in place to run the program effectively to be able to achieve the desired outcomes, while also representing the voice of stakeholders that do not directly sit on the committee. They will provide high level technical and management guidance to the NIE and PMU for program implementation, including guidance on policy advocacy process at national level	Steering Committee member will encompass representatives from National government, Province, Government, City Government, Village Government, Academicians and Civil Society Organizations. National Government Agencies that will be involved in the Steering Committee are: <ol style="list-style-type: none"> <li>1. Office of the Presidential Staff</li> <li>2. Directorate of Adaptation, Directorate General of Climate Change Control, Ministry of Environment and Forestry; as the leading ministry for climate change issue</li> <li>3. Directorate Natural Resources and Maritime, National Development Planning Board; as the coordinating ministry for climate change issue</li> <li>4. Directorate Maritime and Fisheries Development and Research Agency, Ministry of Maritime and Fisheries; as the leading ministry for coastal and small island issue</li> </ol>
National Implementing Entity/Executing Entity – Kemitraan	Kemitraan will be responsible in supervising, supporting and providing guidance to the following activities: <ul style="list-style-type: none"> <li>• Program preparation, including selecting PMU member and developing Steering Committee</li> <li>• Program implementation, including maintain communication and facilitating coordination with the Steering Committee</li> <li>• Program monitoring and evaluation, particularly those stated in Program Results Framework</li> <li>• Strengthening program sustainability</li> </ul>	As the Executing Agency, Kemitraan will ensure that program implementation will comply with Kemitraan Policies as well as AF's ESP and Gender Policy

	<p>strategy</p> <ul style="list-style-type: none"> <li>• Input for policy advocacy</li> <li>• Monitoring financial disbursement for program implementation</li> <li>• Financial assessment for the potential city financial institutions that will be the program's partners</li> <li>• Technical and quality assurance on the program implementation; including ensuring the selected city financial institution conduct their roles and responsibilities in line with Kemitraan and AF policy, as well as program work plan</li> </ul>	
Project Team Leader	<p>Will lead the PMU in implementing the program as a whole in day-to-day basis. Among the specific responsibilities are:</p> <ul style="list-style-type: none"> <li>• Together with NIE selecting the PMU member</li> <li>• Together with selected PMU member will develop Program Implementation Plan as the guidance for program implementation</li> <li>• Ensuring that the program implementation are always in line with the targeted goal and objectives as well as the program implementation plan, and the goals and objective can be achieved effectively and in timely manner</li> <li>• Together with Kemitraan, monitoring the progress and achievement of Program Results Framework</li> <li>• Bridging coordination of program implementation at different government level. Relevant to the multi-government level approach, the PC will be specifically responsible in leading the execution of activities at national level, including coordinating with relevant line ministries, coordinating with national platform and leading the advocacy process at national level</li> <li>• Lead the preparation of program progress report</li> <li>• Ensuring program disbursement is efficient and on schedule</li> <li>• Communicating the program progress and issues to steering committee and NIE</li> </ul>	Project Team Leader is responsible to the NIE in delivering the works.
M&E and Learning Officer	<p>Supporting Project Team Leader in daily program implementation, with specific responsibilities:</p> <ul style="list-style-type: none"> <li>• Collecting information needed to monitor program progress, including Program Results Framework</li> <li>• Developing mechanism for knowledge management (including management for cross-cutting information)</li> </ul>	

	<ul style="list-style-type: none"> <li>• Ensuring that information collected from monitoring activity is reflected upon and utilized to continually improve the on-going program</li> <li>• Implementing internal M&amp;E and ICT capacity building that targeting PMU member to promote a culture of learning and knowledge management internally</li> <li>• Support Team Leader in coordinating and communicating with national platform on climate change adaptation</li> <li>• Assist PO in developing KM platform at city level</li> <li>• Generating lessons learned from village and city level and prepare the relevant documentation, knowledge products and visibility materials based on those lessons learned</li> <li>• Provide input for Project Team Leader and Project Officer based on findings from the lessons learned</li> </ul>	
Finance /Admin Manager	Responsible for financial and administration management for the overall program implementation, including leading the financial assessment process for selecting the suitable financial institutions at city level for pilot financial scheme activities	
Project Officer (PO)	<p>The spearhead of program implementation at National, Province and City Level. Among the specific responsibilities are:</p> <ul style="list-style-type: none"> <li>• Implementing daily activities of the program at city, province and national level, with greater emphasize on city and province level</li> <li>• Assist Project Team Leader in ensuring program disbursement is being done effectively and in accordance with the schedule</li> <li>• Assist Project Team Leader in developing regular progress report</li> <li>• Ensure horizontal and vertical coordination of program stakeholders</li> <li>• Coordinate with M&amp;E and Learning Officer and Finance/Admin Officer in activities implementation</li> <li>• Assist Project Team Leader in developing pilot project criteria</li> </ul>	
Finance /Admin Officer	Assist finance/admin manager in dealing with financial and administration related issue at city and village level implementation, including coordinating with the selected financial institutions for the pilot financing scheme and monitoring their	

	performance	
Village Facilitator	<p>The spearhead of program implementation at village level. Among the specific responsibilities are:</p> <ul style="list-style-type: none"> <li>• Coordinating with Project Officer and Village Officials on program implementation</li> <li>• Lead the implementation of program activities designated at village level</li> <li>• Lead the formation process of village working group</li> <li>• Facilitate training and workshops at village level</li> <li>• Providing input for pilot project selection</li> </ul>	
City Financial Institutions	<p>Despite not being formed specifically for the program, but this institution will have a clear coordination line to PMU and Kemitraan due to the fact that they will play as one of the major actor in the pilot financing scheme. Among the responsibilities are:</p> <ul style="list-style-type: none"> <li>• Ensuring that the finance part of the pilot financing scheme is being carried out in line with Kemitraan and AF Finance Policy</li> <li>• Coordinate and regularly report to Kemitraan and PMU on their work progress</li> <li>• Coordinate with City PO and relevant City Government Officials</li> <li>• Together with PC and Finance/admin manager create selection criteria for potential pilot implementer</li> <li>• Together with PC and PO will create sustainability strategy for the financing scheme</li> </ul>	

The proposed program will ensure that gender mainstreaming is effectively implemented since planning/design stage, and continue to implementation stage to ensure the sustainability of gender responsiveness even after the project is completed.

The proposed program highly values the gender competence of the PMU. In the staffing selection process, the program will incorporate an adequate gender understanding as a criterion in the selection of team members. The team will be assessed for its competence related to gender. Furthermore, to elevate their understanding on gender issue, workshops and training sessions will be held for them during the program planning stage. From the workshops, it is expected that the staff will be equipped with adequate knowledge on gender mainstreaming considerations within the program as well as adequate capacity to support the implementation of gender responsive programs.

During the implementation stage, the PMU will encourage implementing partners to designate gender focal points on their respective organizations to facilitate exchange with partners on any gender-specific issues that might arise. Implementing partners here are village working groups



at 8 targeted villages, city climate working group and selected city financial institution. Both village working group and city climate working group will not be placed under the PMU structure, but their roles in the program implementation will be significant. The roles and responsibilities of village working group are:

- Conduct Participatory Climate Risk Assessment
- Develop village profile and support the development of village information system
- Assessing and selecting adaptation actions that appropriate to be implemented in their respective area, including implementation location
- Together with village facilitator, monitor and evaluate the implementation of selected adaptation action

Meanwhile the city climate working group has the following roles and responsibilities:

- Develop City Climate Risk Assessment and City Climate Impact
- Support the development of RAD API
- Support the process of mainstreaming RAD API into local development plan
- Assessing and selecting the appropriate adaptation actions to be implemented at city level
- Support the development of city-level knowledge management platform
- Work closely with city project officer and ME Learning officer in conducting their roles and responsibilities

As part of monitoring and evaluation process in the implementation stage, this program will also be monitored to identify any challenges, barriers and constraints to gender-responsive implementation or gaps/flaws in the design process and address and mitigate them during implementation.

## **B. Describe the measures for financial and project / programme risk management.**

Identified Risks	Risk Level	Mitigation Measures
<b>Institutional Risk:</b> Potential lack of support from the national and provincial government since climate change issue is not the strategic issue and development priority at both government level at this period	Low	<ul style="list-style-type: none"> <li>• Decision making mechanism of the Steering Committee will be designed as will not be dependent to a single entity</li> <li>• Build partnership with national platform to advocate the issue at national level by utilizing policy brief built upon practical experience at the program location</li> <li>• Periodic report and coordination with the provincial government officials, including involving them in issues that related to provincial government responsibilities at city scope</li> </ul>

Identified Risks	Risk Level	Mitigation Measures
<p><b>Institutional Risk:</b> Weak horizontal coordination at national and city level, and also continually changing representatives in Steering Committee and Working Group (City and Community) could potentially delay the program time frame</p>	Medium	<ul style="list-style-type: none"> <li>• NIE to hold regular coordination meetings at national level</li> <li>• Reactivating city working group to foster city level coordination</li> <li>• Schedule a regular coordination meeting of city and community working group</li> <li>• Member of Steering Committee will be appointed by name (representative of the institutions), instead of only appointing the institutions</li> <li>• Member of City and Community Working Group will be appointed by institution, and legalized by Mayor's Letter of Decree to strengthen the team's roles and responsibilities</li> </ul>
<p><b>Institutional Risk:</b> Ineffective vertical coordination, where lessons learned from lower governance level (community and city level) not effectively communicated to the higher governance level, particularly national level</p>	Medium	<ul style="list-style-type: none"> <li>• Project Team Leader will play a role as the spearhead for advocacy process at national level</li> <li>• KM and learning officer, together with village and city climate working group will develop research paper and policy brief on bottom-up planning and advocacy process. These documents will be communicated to project team leader</li> <li>• Steering committee which consists of national level government representative will be informed regularly by PMU and Kemitraan on the program progress, including on lessons learned from local level, ensuring that national government officials are informed on the program progress and achievement</li> <li>• PMU involvement in national platform will ensure that the progress not only communicated to government officials but also other institutions working at national level</li> <li>• The program implementation plan will take into account the time frame of local and national development plan development process, to ensure program results can be advocated</li> </ul>

Identified Risks	Risk Level	Mitigation Measures
		and mainstreamed into the development plan.
<b>Institutional Risk:</b> 2019 general election momentum potentially shift the focus of key actor at national level, particularly at the beginning of program implementation	Low	Project scheduling will be made so that by the time the national level is at 'general election mode', the project is still at the early implementation stage, where the main activities are developing assessments and conducting trainings to build stakeholders knowledge and awareness. The program will also be designed so as not will be highly influenced by political condition at national level. Project Team Leader along with NIE and the Project Officer will keep track on the changing dynamics due to general election, including changing of actors that needs to be approached for advocacy process.
<b>Social Risk:</b> Low level of support and acceptance from the community could impede participatory approach that became the core of this program, causing several of the adaptation options become ineffective or not on-target, and threatening the sustainability of the actions at post-program period	Medium	<ul style="list-style-type: none"> <li>• Build a strong rapport with local community champion and leader by engaging in informal discussion early in the preparation stage</li> <li>• Establish village working group with member encompassing community leader, representative from different line of work, women group, CSO (if any) and youth group; in which the member will be the focal point in disseminating relevant information to other community member.</li> <li>• Village working group will have a major role in program implementation at village level; where they will take part in developing climate risk assessment and village profile; and also support the development of village information system</li> <li>• The village working group will play a role in assessing and selecting the implemented adaptation action, including location for its implementation</li> <li>• Regular training / discussion forum / coordination meeting to discuss climate change knowledge and</li> </ul>

Identified Risks	Risk Level	Mitigation Measures
		<p>program progress, as well as to build their sense of ownership to the program</p> <ul style="list-style-type: none"> <li>• Training and discussion will be designed to be sensitive to the needs and general character of the participant, to ensure maximum participation</li> <li>• Utilizing knowledge board effectively to inform the wider community</li> </ul>
<p><b>Social Risk :</b> Economic benefits from the program (adaptation actions that could produce larger economic benefits) may garner more attention from the stakeholders in comparison to its social and environmental benefits</p>	Low	<ul style="list-style-type: none"> <li>• Mainstream environmental and social safeguarding since early in the preparation stage by embedding sustainable development context</li> <li>• During inception training, will put emphasis on benefits on each aspect (environmental, social, economic) that could be gained by building coastal resilience; including how each aspect interlink with each other</li> </ul>
<p><b>Environmental Risk:</b> Natural disaster and extreme weather events could delay or impede program implementation</p>	Medium	<ul style="list-style-type: none"> <li>• Coordinate with Disaster Management Board and Ministries of Marine and Fisheries regarding early warning system in place</li> <li>• Communicate in advance potential delay on program implementation to relevant stakeholders</li> <li>• Prepare contingency plan for such events</li> </ul>
<p><b>Financial Risk:</b> Delay in program implementation may result in delay of financial disbursement</p>	Medium	<ul style="list-style-type: none"> <li>• Close monitoring for project implementation and reporting, and provide immediate feed-back on problem faced by the executing institutions</li> <li>• Design problem-solving procedure to ensure issues are dealt in timely and effective manner</li> </ul>

**C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy of the Adaptation Fund.**

The proposed program is categorized as “**Category B**” with potential risks that are minor, small scale and easily mitigated by implementing mitigation measures. Table below summarizes the potential environmental and social risks that could arise from the program and the corresponding mitigation measures. As part of the risk management process, an Environmental and Social Risk Management Plan has been developed for the program and can be found in Annex xx of the proposal.

AF ESP	Type of Risks	Risks Description	Mitigation Measures
Compliance with the Law	Environment	Environmental impacts from specific adaptation actions, particularly those related to structural interventions	<ul style="list-style-type: none"> <li>• Conducting EIA for adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012.</li> <li>• The relevant Environmental Monitoring and Management Plan will be developed for the particular activities</li> <li>• PMU will ensure that the monitoring and management plan is being adhered</li> </ul>
Access and equity	Social	Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood	<ul style="list-style-type: none"> <li>• Conduct stakeholders mapping during project planning stage as the basis for determining the appropriate project implementer, allocating fair roles and responsibilities among stakeholders, and selecting the appropriate activities site location (including knowledge board location) that could benefit wider community</li> <li>• Involving village working groups (which members are community representative) in the selection process</li> <li>• Select working group member that could really represent the voice and interest of all layers of community and city stakeholder</li> </ul>
Marginalized and Vulnerable Groups	Social	Social conflict arising from selection of priority activities site and design which could raise envy from other community member that will not directly exposed to the program	<ul style="list-style-type: none"> <li>• Conduct social impact assessment and develop the corresponding management plan on potential adaptation actions during prioritization process.</li> <li>• Put priority on pro-poor adaptation actions (action that could benefit those who have the least economic adaptive capacity but has a high exposure to climate risk)</li> <li>• Adaptation action design (the site location and structural design) will take account of the needs and suitability for elderly, children groups, and disable groups</li> </ul>

			<ul style="list-style-type: none"> <li>• Develop visibility materials that outlines background from the selection and communicate the materials to wider community</li> <li>• Involving village working groups (which members are community representative) in the selection process</li> <li>• Select working group member that could really represent the voice and interest of all layers of community and city stakeholder</li> </ul>
Human Rights	No risks identified		
Gender Equity and Women's Empowerment	No risks identified		
Core Labour Rights	No risks identified		
Indigenous People	No risks identified		
Involuntary Resettlement	No risks identified		
Protection of Natural Habitats	Environmental	<p>Minor environmental and ecological disruption from hard and soft structure construction or other adaptation activities, for instance:</p> <ul style="list-style-type: none"> <li>• the impact of construction process of structural barrier (as coastal defence) to the existing surrounding ecosystem</li> <li>• waste generation and water pollution from ecotourism site development and operational activities</li> <li>• aquaculture farming preparation process</li> </ul>	<ul style="list-style-type: none"> <li>• If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan</li> <li>• Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA</li> <li>• Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on natural habitat protection</li> <li>• Build temporary sediment trap during structural coastal defence construction process as well as ecotourism site development to control abrasion and</li> </ul>

			<p>sedimentation within mangrove ecosystem</p> <ul style="list-style-type: none"> <li>• Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan</li> <li>• Ensure that aquaculture farming will only be done in existing aquaculture area or idle aquaculture land so that the activities will not open a new area and disrupt the existing natural habitat</li> </ul>
Conservation of Biological Diversity	Environmental	Minor environmental and ecological disruption from hard and soft structure construction, for instance geotube and ecotourism site construction process	<ul style="list-style-type: none"> <li>• If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan</li> <li>• Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA</li> <li>• The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other</li> <li>• Build temporary sediment trap during structural coastal defence construction process as well as ecotourism site development to control abrasion and sedimentation within mangrove ecosystem</li> <li>• Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan</li> </ul>
	Environmental	Minor environmental and	<ul style="list-style-type: none"> <li>• The program will be ensured as</li> </ul>

		<p>ecological disruption from alteration of resource management including:</p> <ul style="list-style-type: none"> <li>• Introduction of new marine/fisheries species to the body of water</li> <li>• Introduction of new mangrove species to the environment</li> <li>• Negative impact on mangrove ecosystem due to over-extraction of mangrove honey</li> </ul>	<p>will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other</p> <ul style="list-style-type: none"> <li>• Primary assessment to see how the new marine species will survive and interact in a new environment (e.g. Vennamei shrimp)</li> <li>• Assess the most appropriate location to introduce the new mangrove species</li> <li>• Educate the community on proper extraction method and quantity for mangrove honey</li> </ul>
Climate Change	No risks identified		
Pollution Prevention and Resource Efficiency	Environmental	Water pollution from hard and/or soft structure construction process	<ul style="list-style-type: none"> <li>• If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan</li> <li>• Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA</li> <li>• Build temporary sediment and oil trap during structural coastal defence construction process, water and sanitation facilities construction process, as well as ecotourism site development to control influent of oil, and also abrasion and sedimentation</li> </ul>
	Environmental	<p>Water pollution from aquaculture farming practices, including:</p> <ul style="list-style-type: none"> <li>• Potential for overpopulation within the aquaculture farm</li> <li>• Sedimentation (increased concentration of organic matter) due to accumulation of</li> </ul>	<ul style="list-style-type: none"> <li>• Educate the community on environmentally friendly aquaculture farming method/practices, including efficient use of feed and proper harvesting technique</li> <li>• Equipped the farm with small</li> </ul>



		fish feed in aquaculture farm <ul style="list-style-type: none"> <li>• Traditional harvesting method that allows aquaculture water flows into drainage system</li> <li>• Non-existent aeration that allows sedimentation accumulation at the bottom of the pond</li> </ul>	windmill that allow aeration in the pond <ul style="list-style-type: none"> <li>• Create sediment trap that is suitable for the farm</li> <li>• Develop environmental procedures for aquaculture farming activities, including water and waste management plan</li> <li>• Regular monitoring of surface water quality inside the farm and in drainage system connected to the farm</li> </ul>
	Environmental	Water pollution due to waste generation from ecotourism activities	<ul style="list-style-type: none"> <li>• Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan</li> <li>• Coordinate with Cleanliness Agency of Pekalongan City in the waste management activities</li> <li>• As a community-based ecotourism, involve the community in the waste management process, including train them to be able to utilize the waste as additional income; either by creating added value to the waste (compost, recycling) from the waste or collect waste that has monetary value (plastic, paper, metal)</li> </ul>
	Environmental	Water pollution from the effluent of sanitation facilities	<ul style="list-style-type: none"> <li>• Rigorous assessment on the most appropriate sanitation facilities for the area's characteristics (including geographical and soil characteristics), to minimize potential risks of pollution</li> <li>• Regular water quality monitoring on the body of water where the sanitation facilities effluent is being conveyed</li> <li>• Together with the community develop utilization and maintenance procedure for the facilities, where the said procedures will be undertaken by them</li> <li>• Educate the community on good sanitation behaviour</li> </ul>
Public Health	No risks identified		
Physical and Cultural	No risks identified		

Heritage			
Land and Soil Conservation	Environmental	Soil pollution from hard and/or soft structure construction, including water facilities construction	<ul style="list-style-type: none"> <li>• If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan</li> <li>• Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA</li> <li>• Build temporary sediment and oil trap during structural coastal defence construction process, water and sanitation facilities construction process, as well as ecotourism site development to control influent of oil, and also abrasion and sedimentation</li> </ul>
	Environmental	Soil pollution from sanitation facilities use and construction	<ul style="list-style-type: none"> <li>• Rigorous assessment on the most appropriate sanitation facilities for the area's characteristics (including geographical and soil characteristics), to minimize potential risks of pollution</li> <li>• Regular water quality monitoring on the body of water where the sanitation facilities effluent is being conveyed</li> <li>• Together with the community develop utilization and maintenance procedure for the facilities, where the said procedures will be undertaken by them</li> <li>• Water tight construction for the sanitation facilities (particularly the waste water management installation) to minimize potential leakage to the soil</li> </ul>
		Soil pollution due to waste generation from ecotourism activities	<ul style="list-style-type: none"> <li>• Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan</li> </ul>

			<ul style="list-style-type: none"> <li>• Coordinate with Cleanliness Agency of Pekalongan City in the waste management activities</li> <li>• As a community-based ecotourism, involve the community in the waste management process, including train them to be able to utilize the waste as additional income; either by creating added value to the waste (compost, recycling) from the waste or collect waste that has monetary value (plastic, paper, metal)</li> </ul>
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From the beginning of the program period, the stakeholders will be informed on the potential risks associated with the program and the corresponding mitigation measures in place. The program's Environmental and Social Management Plan/ESMP (described in a more detailed manner in Annex xxx) will be communicated to them; not only during the program preparation phase, but also throughout the course of the program, to ensure all parties involved are aware of the risks and the appropriate mitigation measures.

As part of the program implementation, the PMU will also set up grievance mechanism for the stakeholders involved. This mechanism is needed to ensure the program always in line with AF's ESP that promote environmental and social safeguard and also ensure that it always in line with community's interest and met their expectations. Steps that will be taken for setting up the mechanism are as follow:

- Initial orientation for the PMU will include materials on ESMP and grievance mechanism so that the staff will understand their roles and responsibilities on this matter
- Assign staff/team of staff that will be responsible for receiving and processing the grievance
- Develop procedures for accepting/logged-in grievance, grievance assessment process, providing feedback for the grievance, and monitoring the feedbacks
- Create internal communication procedures for the mechanism
- Communicating the ESMP and grievance mechanism at the beginning of program implementation to the stakeholders

The grievance mechanism procedure that will be set up will follow these following general guidelines:

- *Logged-in Grievance*  
Stakeholder should formally communicate grievance in a written manner, and sent it to the appointed staff through email, fax or hand-delivered the text to the PMU office. Once it's being logged, the particular stakeholder will receive receipt that acknowledging the complaint is being accepted and will be processed
- *Grievance Assessment*  
Once the complaint is logged-in and recorded, an assessment process will be done by a specific team by considering the complainants, issues, mitigation measures in place,

rating the grievance and exploring options to address the grievance. The team leader will continually updated on the process

- *Providing and Communicating Feedback*

Once the option is selected, the team will prepare a response for the grievance and communicate the response formally in written text to the complainant

- *Monitoring Feedback*

To ensure the feedback is well received by the complainant or to maintain in case there will be follow up response, the responsible staff will continually monitor the grievance cases logged-in, its feedback and how it being dealt in practise.

A more detailed grievance mechanism and the responsible staff will be developed at the beginning of program implementation.

**D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.**

Type of M&E Activities	Responsible Parties	Budget (US\$) (does not include staff time)	Time Frame	Year 1	Year 2	Year 3
Office set-up and project staff recruitment	Team Leader	500	Y1: 1 <sup>st</sup> month	500		
Inception workshop (30 participants, 5 days)	Team Leader	3000	Y1; 2 <sup>nd</sup> month	3.000		
Inception report	Team Leader	0	Y1: 2 <sup>nd</sup> month	-		
Develop the performance management plan and reported quarterly	Team Leader	0	Y1 (quarterly), Y2, Y3			
Develop base line data (2 month, 1 team researcher)	M&E Specialist	4.000,00	2 <sup>nd</sup> -3 <sup>rd</sup> month Y1	4.000		
Regular monitoring to the field  • 2x monthly, 3 days, 3 persons	Team Leader	10.000,00	Y1: bimonthly,  Y2 and Y3	3.333	3.333	3.333
Spot check monitoring the measure the progress output  • 1x/quartile, 4 days, 2 person	PME Unit and Internal Audit	7.500,00	Y1: quarterly  Y2, Y3	2.500	2.500	2.500

Quarterly report	Team Leader	0	Y1 (quarterly), Y2, Y3			
Coordination meeting of the project management unit with the steering committee in the national and district level <ul style="list-style-type: none"> <li>National level: 10 persons</li> <li>City level: 10 persons</li> </ul>	Team Leader	4.000,00	Y1, 3rd Year	1.333	1.333	1.333
PMU coordination meeting including the field staff <ul style="list-style-type: none"> <li>2x/year, 3 days, 10 persons</li> </ul>	Team Leader	7.000,00	Y1, Y2, Y3	2.333	2.333	2.333
End line survey <ul style="list-style-type: none"> <li>Team research</li> <li>3 month</li> <li>Field visit</li> </ul>	Researcher	5.000,00		-	5.000	
Documentation of achievements from program's indicators and targets		9.000,00		3.000	3.000	3.000
Midterm evaluation	External consultant	5.000,00	Y2 6 <sup>th</sup> month	-	5.000	
Final evaluation	External consultant	10.000,00	Y3, 3 <sup>rd</sup> quartile	-		10.000
<b>Grand Total</b>		<b>65.000,00</b>		<b>20.000</b>	<b>22.500</b>	<b>22.500</b>



**E. Include a results framework for the project proposal, including milestones, targets and indicators.**

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
<b>Outcome 1.1</b> Enhanced capacity of local actors in identifying, initiating, strengthening, and escalating community-based actions to address climate risk and natural disaster	Number of Local champions in * village aware about climate impact and active to promote adaptation actions	In general, local champions only focus on the issue of economic empowerment and climate change mitigation	8 village Climate working group established Regular meeting every month is conducted	Regular meeting report Record on attendance in meeting or seminar	
Output 1.1.1 Village climate working group established and functioning in each of the 8 villages	Number of climate working group (CWG) established  % representative from local champions, women and local government (village) active in CWG	There are no community groups that focus on climate change adaptation actions	8 Climate Working group (CWG)  20% of member CWG is women & youth leaders  192 meeting for 8 villages and 96 meeting will invite gender, climate, environment, infrastructure related with adaptation actions experts	Record of attendance on meetings  Minute of meetings	
Output 1.1.2 Enhancing coastal community capacity in developing the village information system and implementing the ensuing climate change adaptation actions	% of member CWG participating in the training of workshop  % members of CWG involved in training and the preparation and	the government has an action to deal with tidal flood, flash flood and water issue, but community involvement is still lacking	8 member of CWG to be active participants on 2 training and 3	Record of attendance on the workshops	

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
	implementation of Village information system Number of village profile Number of village information system Number of village adaptation action plan	The 8 village don't have village climate adaptation actions plans	workshop related village information system and village adaptation actions  6 workshop accros village  8 Village adaptation actions plans	Village Climat adaptation actions documents	
<b>Outcome 1.2</b> Enhancing local community adaptive capacity, including developing livelihood strategies to face climate change impacts and natural disasters	Number of village (community) group (fisherman group, farmer group, women group, young group/karang taruna) active in training, workshop, and take climate adaptation actions % Increase income of population involved in income generative activities	Not exist	8 village actice to take climate adaptation actions  avoided 20%decrease income at least	Progress reports  surveys	
Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.)	Number of mangroove plantation Number of sanittion build Number of Fishponds	Poor sanitation Poor mangroove Poor quality of fishpond	8 pilot of vannamei shrimp ponds in Degayu village  9 pilot of fishponds (aquaculture) in 7 villages (Bandengan, Kandang panjang, Panjang baru, Krapyak,	Survey Field fisit Progress report Monitoring report	



Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
			<p>Kandang panjang, Padukuhan kraton and Pasir kraton)</p> <p>15 mounds of manggrove (1000 plantation) in 4 vilages (Bandengan, Kandang panjang, Panjang Baru and guludan)</p> <p>Reconstructio ns of 25 individuals sanitations facilities each villages</p> <p>2 commun al sanitation facilities in each of the 8 targeted villages (Degayu, Krapyak, Panjang Wetan, Panjang Baru, Kandang Panjang,</p>		

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
			Padukuh an Kraton, Bandeng an and Pasir Kraton Kramat))		
<b>Outcome 2.1</b> Enhancing local government and other city stakeholders' capacity in developing climate risk assessment and utilizing the results to develop local climate change adaptation action plan (RAD API),	Climate change and adaptation context included in City Development Plan  Number of CCA-specific activities with allocated budget are included in City Development Plan  Number of staff across sectors trained and build their awareness on the new regulations enforcement	Not Included   Current program and activities has not considered CCA context	Climate change and adaptation become strategic issue in Pekalongan  At least 10 activities with allocated budget are included	City Development Plan Document  Program and Activities Matrix in City Development Plan Document	<u>Assumptions:</u> The RAD API trainings and development process are attended by diverse local government agencies to enable cross-sector collaboration within the document, so that they will buy-in the program  Political will and commitment that encourage full participatory participation of key government Stakeholders
Output 2.1.1 City climate working group reactivated	City Climate working group (CWG) established	up to 4 years ago the city of Pekalongan had a CWG that focused on mitigation, but now it is no longer exists	CWG is active and produces several planning documents to local	Record of attendance on the regular meeting  RAD API	<u>Assumptions:</u> The regular meetings are attended by diverse local government

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
			regulations  36 meetings in 3 years 4 workshop in two years (60 participants in each workshop: CWG, Local Government, village champions, local university and local private sectors)	document  Local regulations draft	agencies to enable cross- sector collaboration
-Output 2.1.2 RAD API developed based on City Climate Risk Assessment and Climate Coastal Impact	Number of training and workshops on RAD API development  Number of City Adaptation Actions (RAD API) document  Number of studies on coastal climate impact	Not exist  Not exist  No Exist	2 workshops and 1 training and technical assistant on developing city risk assessment  1 verivcation workshop for climate risk assessment and city adaptation actions (60 participant for each workshop and training, totaly 240 participants)	Record of attendance on the workshops  RAD API document	<u>Assumptions:</u> The trainings are attended by diverse local government agencies to enable cross- sector collaboration within the document

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
			<p>City Risk Assessment developed</p> <p>1 City adaptation actions (RAD) API document is developed</p> <p>1 Cimate coastal impact is developed</p>		
Output 2.1.3 Strategy to integrate CCA into local government planning processes (annual work plan or mid-term development plan of city) is developed	<p>Number of strategic document to integrate CCA into City government planning process</p> <p>Number of training on the integration process</p>	<p>The national government has provided general guidance to incorporate RAD API into local government plan, but still needs to be adjusted for local planning process</p> <p>Not exist</p>	<p>1 strategic document outlining the integration process</p> <p><u>Defind gap on previous government planning and technical assisstant on integgration CCA into laocal governemnet planning. The activity will fit into CWG regulars meetings</u></p>	<p>Strategic document</p> <p>Records of attendance on the training activity</p>	<p><u>Assumptions:</u></p> <p>The timeline for strategy development is following government planning process timeline so that the integration process feasible to be done</p>

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
			1 trainings on the integration process And technical assistant (60 participants from multistakeholders)		
<b>Outcome 2.2</b> Enhanced resilience of coastal community from the Implementing Climate smart initiatives, including those fostering sustainable utilization of natural resources, with implementation and financing scheme that can be replicated and disseminated to broader audience	Number of adopting climate change adaptation measures that improve their livelihoods and the resilience of the ecosystem  % of women adopting climate change adaptation measures	Not exist	Fours type of climate adaptation actions can replicate on city scale  40% of women active in climate change adaptation action measure	Survey  Annual report	
Output 2.2.1 Innovative and collaboration adaptation actions are implemented	Number of coastal embankment Number of aquaculture developed Number of innovative laterin Number of community based ecotourism developed Number of mangrove restored	Poor quality of coastal embankment Poor technology  0 community plan is available for mangrove management & coastal embankment  2 villages that potential for ecotourism  8 villages affected by tidal inundation and they are have problem	900 m coastline of Degayu Village by geotube and natural embankment  500 m coastline of Kandang Panjang Village	Progress reports, field visits  Analysis reports  Monitoring reports  Remote sensing	Technical and investment support

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
		with laterine	<p>15 vannamei shrimp ponds in Degayu Village</p> <p>60 bandeng/nila farm pond (15 bandeng/nila ponds locations in 4 villages: Bandengan, Kandang Panjang, Panjang Baru, and Degayu)</p> <p>Second year will leverage 15 fish pond in others 4 villages (Krapyak, Panjang Wetan, Padukuhan Kraton, and Pasir Kraton Kramat)</p> <p>70 mounds of mangrove in PIM (Kandang Panjang Village)</p> <p>Two community-based ecotourism in</p>		

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
			Panjang Baru Village and Degayu Village 24 individual sanitation facilities in each of the 8 targeted villages (a total of 192 facilities)  1 communal sanitation facility in each of the 8 targeted villages (a total of 8 facilities)  10 Ha mangrove restored		
<b>Outcome 2.3</b> Establishing city-level knowledge management platform	Number of meeting in city level Number of knowledge product developed Number of policy advocacy material developed Number of community group active in establishing knowledge management platform	No exist			
Output 2.3.1 Climate change training and knowledge sharing conducted	Number of Trainging & workshop  Number of knowledge management Forum at city level % women, men and young active in forum	No exist	1 training & workshop (60 participant)  2 knowledge management	Record of attendance on the workshops  Policy papers document	The trainings are attended by diverse local government agencies and local stakeholders to

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
			forum 25 % participant is women and young leaders (60 participants in each forum)	Best practice document  Newsletter document	leverage climate adaptation actions
Output 2.3.2 Local knowledge sharing platform established	Number of policy papers developed and shared Number of Best practice documentation developed and shares Number of newsletters developed and share	Not exist	Reguler news letter every 3 months  4 Policy papers related with coastal adaptation action  5 types of best practices documented and shares in local and national	Policy papers document  Best practice document  Newsletter document	Local knowledge platform accept the program as part of their platform
<b>Outcome 3. 1</b> Enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan	Climate change and adaptation context included in Central Java Province Development Plan          Number of CCA-specific activities	Not Included          Current program and	Climate change and adaptation become strategic issue in Central Java Province Development Plan  At least 10	Central Java Province Development Plan Document          Program and	<u>Assumptions:</u> The RAD API trainings and development process are attended by diverse local government agencies to enable cross- sector collaboration



Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
	with allocated budget are included in Central Java Province Development Plan	activities has not considered CCA context	activities with allocated budget are included	Activities Matrix in Central Java Province Development Plan Document	within the document, so that they will buy-in the program
Output 3.1.1 Enhanced provincial capacity to develop RAD API	Number of training and workshops on RAD API development  Number of Provincial RAD API document	Not exist  Not exist	3 trainings on Central Java Province RAD API development  1 Central Java Province RAD API document is developed	Record of attendance on the workshops  RAD API document	<u>Assumptions:</u> The trainings are attended by diverse local government agencies to enable cross-sector collaboration within the document
Output 3.1.2 appropriate strategy to integrate CCA into Provincial government planning processes (annual work plan or mid-term development plan of city) is developed	Number of strategic document to integrate CCA into Central Java Province government planning process  Number of training on the integration process	The national government has provided general guidance to incorporate RAD API into local government plan, but still needs to be adjusted for local planning process  Not exist	1 strategic document outlining the integration process  3 trainings on the integration process	Strategic document  Records of attendance on the training activity	<u>Assumptions:</u> The timeline for strategy development is following government planning process timeline so that the integration process feasible to be done
<b>Outcome 4.1</b> Enriching SIDIK as risk assessment tools for coastal area based on local experience	Coastal-related criteria/indicator for SIDIK and the relevant handbook developed and submitted to the Ministry of Environment and Forestry (MoEF)	Not exist	1 set of coastal-related criteria/indicator or and	Document on coastal-related criteria/indicator  Record on	<u>Assumption:</u> MoEF buy-in the idea of enriching SIDIK for coastal area utilization

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
			handbook for SIDIK	submission process of the criteria to MoEF	
Output 4.1.1 Knowledge product in the form Handbook on how to use SIDIK for risk assessment at coastal city is published and shared. This handbook is targeted to be used by local government, NGOs and civil society organizations.	Number of handbook on SIDIK for coastal city	Not exist	1 handbook on SIDIK for coastal city	SIDIK for coastal city handbook	
	Number of dissemination for the handbook	Not exist	1 dissemination activity	Record of attendance on the dissemination	
	Number of handbook being shared to local government, NGOs and civil society	Not exist	At least 300 handbooks are shared	Record on handbook receiver	
<b>Outcome 4.2</b> Strengthening vertical coordination and collaboration between national and local government in climate adaptation context	Number of knowledge products from local activities communicated at national level	Not exist	1 handbook on SIDIK for coastal city  3 policy papers on policy, regulatory framework and fiscal for coastal resilience  1 lessons learned shared during national dialogue	SIDIK for coastal city handbook  Policy paper documents  Minutes of meetings on national dialogue event	
Output 4.2.1 Strengthened vertical coordination and collaboration between national and local government in climate adaptation context	Number of national dialogue conducted in collaboration with the program	National dialogue is an annual event APEKSI and MoEF	The program collaborated with APEKSI and MoEF in conducting 3 national	Record of attendance and minutes of meetings on national dialogue event	<u>Assumptions:</u> MoEF and APEKSI buy-in the collaboration process

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
	Number of document mapping on coastal resilience policy	Not exist	dialogues		
	Number of policy papers developed and shared	Policy papers for coastal area is not exist	1 document that map policies on coastal resilience	Document on coastal resilience policy mapping	Human and financial resources of the program is adequate to support the national dialogue event
	Number of meetings with national knowledge platform	National knowledge platform is established and having a regular meeting	3 policy papers on policy, regulatory framework and fiscal for coastal resilience are developed and shared	Policy paper documents Record on policy paper communication to stakeholders	National knowledge platform accept the program as part of their platform
			Attend at least 9 meetings of the national knowledge platform	Record of attendance and minutes of meetings of the national knowledge platform meetings	

## F. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund

Project Objective(s)	Project Objective Indicator(s)	Fund Output	Fund Output indicator	Grant Amount (USD)
Enhancing coastal community capacity in developing Climate change adaptation actions and village information system	Number of population active on climate adaptation awareness and actions	<b>Outcome 3:</b> Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	<b>948.172</b>
Enhancing local government and other city stakeholders' capacity to develop local climate change adaptation action plan (RAD API), Implementing climate smart initiatives	Number of CCA-specific activities with allocated budget are included in City Development Plan  Number of adopting climate change adaptation measures that improve their livelihoods and the resilience of the ecosystem	<b>Outcome 7:</b> Improved policies and regulations that promote and enforce resilience measures  <b>Outcome 6:</b> Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	7. Climate change priorities are integrated into national development strategy  In the project focus on city development plan strategy  6.2. Percentage of targeted population with sustained climate-resilient livelihoods	<b>2.615.545</b>
Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan	Climate change and adaptation context included in Central Java Province Development Plan	<b>Outcome 2:</b> Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1. No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	<b>31.074</b>
Strengthening vertical coordination and collaboration between national and local government in climate adaptation context and	Number of knowledge products from local activities communicated and adopted at national level	<b>Outcome 1:</b> Reduced exposure at national level to climate-related hazards and threats	1. Relevant threat and hazard information generated and disseminated to stakeholders on a timely	<b>123.285</b>

Project Objective(s)	Project Objective Indicator(s)	Fund Output	Fund Output indicator	Grant Amount (USD)
Enriching knowledge, toolkits and methodologies coastal resilience for the national government			basis	
Project Outcome (s)	Project Outcome Indicator(s)	Fund Output	Fund Output indicator	Grant Amount (USD)
<b>Outcome 1.1</b> Enhanced capacity of local actors in identifying, initiating, strengthening, and escalating community-based actions to address climate risk and natural disaster; including capacity in integrating the actions to village development plan	Number of Local champions in village level aware about climate impact and active to promote adaptation actions	<b>Output 3:</b> Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1 No. and type of risk reduction actions or strategies introduced at local level	<b>304.326</b>
<b>Outcome 1.2</b> Enhancing local community adaptive capacity, including developing livelihood strategies to face climate change impacts and natural disasters	Number of village (community) group (fisherman group, farmer group, women group, young group/karang taruna) active in training, workshop, and take climate adaptation actions % Increase income of population involved in income generative activities	<b>Output 6:</b> Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1.No. and type of adaptation assets (physical as well as knowledge) created in support of individual or community-livelihood strategies  6.1.2. Type of income sources for households generated under climate change scenario	<b>643.846</b>
<b>Outcome 2.1</b> Enhancing local government	Climate change and adaptation context included	<b>Output 7:</b> Improved integration of climate-	7.1. No., type, and sector of policies introduced or	<b>194.930</b>

Project Objective(s)	Project Objective Indicator(s)	Fund Output	Fund Output indicator	Grant Amount (USD)
and other city stakeholders' capacity in developing climate risk assessment and utilizing the results to develop local climate change adaptation action plan (RAD API),	<p>in City Development Plan</p> <p>Number of CCA-specific activities with allocated budget are included in City Development Plan</p> <p>Number of staff across sectors trained and build their awareness on the new regulations enforcement</p>	resilience strategies into country development plans	adjusted to address climate change risks	
<p><b>Outcome 2.2</b></p> <p>Enhanced resilience of coastal community from the Implementing Climate smart initiatives, including those fostering sustainable utilization of natural resources, with implementation and financing scheme that can be replicated and disseminated to broader audience</p>	<p>Number of adopting climate change adaptation measures that improve their livelihoods and the resilience of the ecosystem</p> <p>% of women adopting climate change adaptation measures</p>	<p><b>Output 5:</b> Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability</p> <p><b>Output 6:</b> Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability</p>	<p>5.1. No. and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets)</p> <p>6.1.1.No. and type of adaptation assets (physical as well as knowledge) created in support of individual or community-livelihood strategies</p>	<b>2.172.539</b>
<p><b>Outcome 2.3</b></p> <p>Establishing city-level knowledge management platform</p>	<p>Number of meeting in city level</p> <p>Number of knowledge product developed</p> <p>Number of policy advocacy material developed</p> <p>Number of community group</p>	<b>Output 3:</b> Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.2 No. of news outlets in the local press and media that have covered the topic	<b>248.076</b>

Project Objective(s)	Project Objective Indicator(s)	Fund Output	Fund Output indicator	Grant Amount (USD)
	active in establishing knowlaedge management platform			
<b>Outcome 3.1</b> Enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan	Climate change and adaptation context included in Central Java Province Development Plan  Number of CCA-specific activities with allocated budget are included in Central Java Province Development Plan	<b>Output 2.1:</b> Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events  2.1.2. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	<b>31.074</b>
<b>Outcome 4.1</b> Enriching SIDIK as risk assessment tools for coastal area based on local experience	Coastal-related criteria/indicator for SIDIK and the relevant handbook developed and submitted to the Ministry of Environment and Forestry (MoEF)	<b>Output 1:</b> Risk and vulnerability assessments conducted and updated at a national level	1.1. No. and type of projects that conduct and update risk and vulnerability assessments	<b>31.638</b>
<b>Outcome 4.2</b> Strengthening vertical coordination and collaboration between national and local government in climate adaptation context	Number of knowledge products from local activities communicated at national level	<b>Output 7:</b> Improved integration of climate-resilience strategies into country development plans	7.1. No., type, and sector of policies introduced or adjusted to address climate change risks	<b>91.647</b>

### Alignment with Adaptation Fund Core Indicators

Core Indicators	Information on the indicators
Number of benefecieries	<p><b>1.515 direct beneficiaries and 60.622 indirect beneficiaries</b>  <b><i>Detailed calculation of the direct beneficiaries</i></b>  - 386households (<b>1515persons</b>)  - Strengthened capacity of local institutions to mainstream climate change in Village and City Development Planning, best practice of local climate adaptations and to document and disseminate lessons learned of <b>100</b> persons ( at mid-term) ( 20% of them women)  - Informed of local climate change issues and adequate measures to be implemented for 400 persons ( 200 adult women, 200 adult men,)  - . 16 communities groups participating in adaptation planning, project management meetings, implementation and monitoring activities have the tools, knowledge and skills to respond to new conditions results from climate variability and change</p> <p><b><i>Detailed calculation of the indirect beneficiaries</i></b>  - All project activities will have an impact on the entire city population</p>
Assets produced, Developed, Improved, or Strengthened	<p><b>Assets improved or strengthened (in short-term)</b>  - 1400 m coastal embakment  - .... households  - ... aqua culture ( fish pond, ... shrimp pond )  - 3Sanitation/latterine 192 individual and 16 communal)  - 8 sanitation in 8 villages  - 20 Mangrove  - 70 mounds of manggrove PIM (Mangrove information center)  -</p> <p><b>Assets improved or strengthened (long-term)</b>  - The entire village in Pekalongan city</p>
Increased income, or avoided decrease in income	. The development of fish and Shrimp farms to improve



	<p>populations' will avoided 20% decrease</p> <p>- The reforestation of 20 hectares of mangrove is also planned to play an important role in the fight against flooding, reproduction, and the development of certain fish species, shrimp development,. After three years, the mangrove can contribute to the fish and shrimp farming development.</p> <p>The development of two ecotourism to increase income .. and play important role in the fight against flooding, reproduction, and the development of certain fish species, shrimp development</p>
Natural Assets Protected or Rehabilitated	20 ha of mangrove



- G.** Include a detailed budget with budget notes, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

Description Item			Year				Notes
Total Project/Programme Cost			1	2	3	Total	
<b>Component 1. Enhancing coastal community capacity in developing Climate change adaptation actions and village information system</b>							
<b>Outcome</b>	<b>1.1</b>	Enhanced capacity of local actors in identifying, initiating, strengthening, and escalating community-based actions to address climate risk and natural disaster;					
<b>Output</b>	<b>1.1.1</b>	Village climate working group established and functioning in each of the 8 villages					
<b>Activity</b>	<b>1.1.1.1</b>	Preparation to develop climate working group	8.800			<b>8.800</b>	
	<b>1.1.1.2</b>	Reguler/ coordinationn meeting	52.800	52.800	52.800	<b>158.400</b>	Monthly meeting/works hop in 8 village for 2 years (totaly 192 meeting) 12 meeting will invite resource person form ouside village/city such as gender and climate expert's
	<b>1.1.1.3</b>	Seminar/workshop	7.492			<b>7.492</b>	80 participants
<b>Output</b>	<b>1.1.2</b>	Enhancing coastal community capacity in developing the village profile and implementing the ensuing climate change adaptation actions					
<b>Activity</b>	<b>1.1.2.1</b>	workshop related to climate adaptation action and coastal resilience	11.031	11.031	11.030	<b>33.092</b>	70 participants, 2 times/years
	<b>1.1.2.2</b>	Training PCRA	43.285			<b>43.285</b>	PCRA: participtory Climate risk

Description Item			Year				Notes
							assessment training 1 ToT for village facilitators 1 Training for PCRA in 8village 1 training viillage profile/village information system in 8 village
	1.1.2.3	TA for Village profile and village information system	21.254			21.254	TA: technical assisstant (by consusltant)
	1.1.2.4	TA for PCRA & Village profile	21.254			21.254	TA: technical assisstant (by consusltant)
	1.1.2.5	Dissemination RAD API Pekalongan city	10.750			10.750	RAD API: Local action plan on climate adaptation
<b>Outcome</b>	<b>1.2.</b>	Enhancing local community adaptive actions capacity, including developing livelihood strategies					
<b>Output</b>	<b>1.2.1</b>	Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, rain water harvesting construction etc.)					
<b>Activity</b>	<b>1.3.1.1</b>	Scooping and Feasibility study documents on prioritized community-based adaptation actions in 8 villages	110.000			110.000	By consultant/climate, infrastructure expert
	<b>1.3.1.2</b>	Implement agreed adaptation action in 8 villages implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, rain water harvesting construction etc.)	177.949	355.897		533.846	

Description Item			Year				Notes
Component 2: Enhancing local government and other city stakeholders' capacity to develop local climate change adaptation action plan (RAD API), Implementing climate smart initiatives							
Outcome	2.1	Enhancing local government and other city stakeholders' capacity in developing climate risk assessment and utilizing the results to develop local climate change adaptation action plan (RAD API),					
Output	2.1.1	City climate working group reactivated					
	2.1.1.1	Regular/coordination meeting	10.892	10.892	10.892	32.677	Monthly meeting/works hop as part as capacity development
	2.1.1.2	Seminar/Workshop/Training	8.469	4.235	4.235	16.938	
	2.1.1.3	Preparation of mayor decree on city climate working group	769			769	
Output	2.1.2	RAD API developed based on City Climate Risk Assessment and Climate Coastal Impact					
Activity	2.1.2.1	Leadership training or workshop for local champion include local government agency	4.231			4.231	
	2.1.2.2	Vulnerability and Risk Assessment Training	37.754			37.754	
	2.1.2.3	Verification meeting of VA and RA	4.238			4.238	
	2.1.2.4	Develop Coastal Climate Impact	69.231			69.231	By consultant
	2.1.2.5	TA for RAD API (city climate adaptation actions)	0				fit in city working group regular meeting
Output	2.1.3	Strategy to integrate CCA into local government planning processes (annual work plan or mid-term development plan of city) is developed					
Activity	2.1.3.1	Analyzing previous city development plan	0				fit in city working group regular meeting
	2.1.3.2	Training of Integrating RA into Development Plan	22.504			22.504	
	2.1.3.3	Technical assistant of Integrating City Adaptation Action into City Development Plan	0				Include on city working group regular meeting
	2.1.3.4	Dissemination	6.588			6.588	
outcome	2.2	Implementing innovative and Collaborative Climate Change Adaptation actions measures, including those fostering sustainable utilization of natural resources, with replicable implementation and financing scheme/ Pilot projects/programs for Collaborative Climate Change Adaptation					

Description Item			Year				Notes
		actions (CCA) based on RAD API selected and implemented					
<b>Output</b>	<b>2.2.1.</b>	Innovative and collaboration adaptation actions are implemented					
<b>Activity</b>	<b>2.2.1.1</b>	Consultation meeting to identify and select coastal resilience actions conducted	7.231			<b>7.231</b>	
	<b>2.2.1.2</b>	Scoping study and feasibility study documents on the selected coastal resilience actions	76.923			<b>76.923</b>	
	<b>2.2.1.3</b>	Pilot innovative adaptation measures are implemented in collaboration with other stakeholders and evaluated for future reference		1.633.846	408.462	<b>2.042.308</b>	Coastal embankment, aquaculture, ecotourism, individual and communal latrine
	<b>2.2.1.4</b>	Developed monitoring system for pilot initiative		5.128	2.564	<b>7.692</b>	Internal and external evaluator
	<b>2.2.1.5</b>	Evaluated of Pilot Innovative for future reference		4.103	2.051	<b>6.154</b>	Internal and external evaluator
	<b>2.2.1.6</b>	workshop Collaborative Adaptation actions across vilages			11.723	<b>11.723</b>	8 village cwg, city cwg, private sector, local NGO's and university will be active participants
	<b>2.2.1.7</b>	Facilitate Collaborative Adaptation actions across vilages			20.508	<b>20.508</b>	8 village cwg, city cwg, prairivate sector and university will be active participants
<b>Outcome</b>	<b>2.3</b>	Establishing city-level knowledge management platform					
<b>Output</b>	<b>2.3.1</b>	Climate change training and knowledge sharing conducted					

Description Item			Year				Notes
Activity	2.3.1.1	Climate change training		13.077		13.077	
	2.3.1.2	Knowledge management Forum	11.538	11.538	11.538	34.615	Local champion from 8 villages, city government, private sectors, University and local NGO's will be active participants
Output	2.3.2	Local knowledge sharing platform established					
Activity	2.3.2.1	Knowledge product (i.e. lessons learned, research paper, newsletter) published and shared		27.692	6.923	34.615	
	2.3.2.2	Advocacy materials (i.e. policy brief, policy analysis, gap analysis) developed and communicated		17.500	17.500	35.000	
	2.3.2.3	City knowledge sharing platform established	43.590	87.719		130.769	
Component 3: Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan							
Outcome	3.1	Enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan					
Output	3.1.1	Enhanced provincial capacity to develop RAD API					
Activity	3.1.1.1	Conduct Training and workshop on risk assessment and adaptation actions conducted	11.000			11.000	
	3.1.1.2	Facilitate Climate risk assessment of Central Java Province with village level as the smallest assessment scale is developed	1.436			1.436	
	3.1.1.3	TA for RAD API	2.872			2.872	
Output	3.1.2	Strategy to integrate CCA into Provincial government planning processes (annual work plan or mid-term					

Description Item			Year				Notes
		development plan of city) is developed					
Activity	3.1.2.1	Analizing previous Provincial development plan	458			458	
	3.1.2.2	Training of Integrating RA into Development Plan	10.954			10.954	
	3.1.2.3	Technical assistant of Integrating provincial Adaptation Action into City Development Plan	2.177	2.177		4.354	
<b>Component 4. Strengthening vertical coordination and collaboration between national and local government in climate adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government</b>							
Outcome	4.1	Enriching SIDIK as risk assessment tools for coastal area based on local experience					
Output	4.1.1	Knowledge product in the form Handbook on how to use SIDIK for risk assessment at coastal city is published and shared. This handbook is targeted to be used by local government, NGOs and civil society organizations					
Activity	4.1.1.1	Develop handbook on how to use SIDIK for risk assessment at coastal based on Pekalongan experiences		5.962	5.962	11.923	
	4.1.1.2	Handbook dissemination			19.715	19.715	
Outcome	4.2	Strengthening vertical coordination and collaboration between national and local government in climate adaptation context					
Output	4.2.1	Strengthened vertical coordination and collaboration between national and local government in climate adaptation context					
Activity	4.2.1.1	Coordination and collaboration with materials that also incorporate local experience		10.231		10.231	
	4.2.2.2	National dialogue that involved local and national government is conducted in order to support the activity of RAN API Secretariat		14.285	14.285	28.569	
	4.2.2.3	Policy papers regarding gaps in national policy, fiscal, regulatory and legal framework to build a resilient coastal city are developed and communicated	6.654	6.654		13.308	
	4.2.2.4	Communication with national knowledge platform is built and maintained	2.885	11.538	8.654	23.077	
	4.2.2.5	Mapping Coastal resilience policy		8.231	8.231	16.462	
<b>Total Project/Programme Cost (component 1-4)</b>			<b>807.008</b>	<b>2.326.227</b>	<b>584.842</b>	<b>3.718.077</b>	
<b>Total Project Execution Cost (PEC) and M&amp;E Cost</b>						<b>353.217</b>	
<b>Project/Programme Cycle Management Fee charged by the Implementing</b>						<b>55.771</b>	



Description Item			Year				Notes
Entity							
Amount of Financing Requested						4.127.065	

**Project Execution Cost (PEC)**

Description	Year 1	Year 2	Year 3	Total	Remark
<b>Staff</b>					
<b>Team Leader</b>	24.600	24.600	24.600	<b>73.800</b>	
<b>Admin &amp; Finance Manager</b>	6000	6000	6000	<b>18.000</b>	20% by AF 80% by The Partnership
<b>Project Officer</b>	11.000	12.000	12.000	<b>35.000</b>	
<b>M&amp;E Officer</b>	11.000	12.000	12.000	<b>35.000</b>	
<b>Finance &amp; Admin Officer</b>	12.000	12.000	12.000	<b>36.000</b>	
Village Fasilitator 1	7.150	7.800	7.800	<b>22.750</b>	
<b>Village Fasilitator 2</b>	7.150	7.800	7.800	<b>22.750</b>	
<b>Sub total Staff</b>	<b>78.900</b>	<b>82.200</b>	<b>82.200</b>	<b>243.300</b>	
<b>Operation</b>					
<b>Office space &amp; utilities</b>	6.281	6.281	6.281	<b>18.843</b>	
<b>Communication</b>	3.157	3.157	3.157	<b>9.471</b>	
<b>Stationaries, sundries</b>	2.825	2.825	2.825	<b>8.474</b>	
<b>Equipment</b>	8.130			<b>8.130</b>	
<b>Sub Total Operation</b>	<b>20.392</b>	<b>12.263</b>	<b>12.262</b>	<b>44.917</b>	
<b>M&amp;E</b>	20.000	22.500	22.500	<b>65.000</b>	
<b>Total</b>	<b>119.292</b>	<b>116.963</b>	<b>116.962</b>	<b>353.217</b>	

**Project Cycle management Fee**

Project Cycle Management Fee	Ammount (USD)	Distribution
Project identification and Development	2.789	5%
Project Implementation and Supervision	41.828	75%

Evaluation	11.154	20%
Total	55.771	100%

a) Project identification and development

- (i) Consult with appropriate stakeholder's in-country
- (ii) Provide technical support for Project preparation
- (iii) Assist in the determination of Implementation Arrangements and negotiation with all stakeholder's and level of intervention
- (iv) Obtain endorsement letter(s) from City untill Minstry

b) Project Implementation and supervision

- (i) Provide technical guidance, as necessary, for project implementation
- (ii) Regular reporting
- (iii) Project financial follow-up
- (iv) Pay advances to the executing entity and review financial reports.
- (v) Oversight and monitoring of AF funds.
- (vi) Prepare periodic revisions to reflect changes in annual expense category budgets
- (vii) Participate as necessary during Project activities

c) Evaluation

- (i) Undertake technical analysis, validate results and compile lessons.
- (ii) Disseminate technical findings.
- (iii) Oversee the preparation of the Project Completion Report/Independent Terminal Evaluation; submit the report to AF Secretariat.

(iv) Prepare project closing documents.

Prepare the financial closure of the project

**H.** Include a disbursement schedule with time-bound milestones.

### Disbursement Schedule

Description	Upon Agreement Signature	One Year After Project Start	Year 2	Total
<b>Project Funds</b>	926.300	2.443.190	701.804	<b>4.071.294</b>
<b>Implement Entity Fee</b>	12.827	33.463	9.481	<b>55.771</b>
<b>Total</b>	<b>939.127</b>	<b>2.476.653</b>	<b>711.285</b>	<b>4.127.065</b>

## PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

- A. Record of endorsement on behalf of the government<sup>26</sup>** *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

<b>Dr. Ir. Nur Masripatin M.For. Sc</b> Director General for Control of Climate Change	Date: April, 7, 2017
---	----------------------

<b>Achmad Alf Arslan Djunaid, S.E</b> Mayor of Pekalongan City	Date: March, ..., 2017
---	------------------------

- B. Implementing Entity certification** *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (President Decree No. 16 year 2015; P.13/Menlhk/Setjen/OTL.0/1/2016; P.33/Menlhk/Setjen/Kum.1/3/2016; Indonesia Intended Nationally Determined Contribution/INDC; COP 21 Paris Agreement signed by Government of Indonesia; Book and Map of Information System of Vulnerability Index Data (SIDIK); Permen-KP No. 2 year 2013; Climate Change Adaptation National Action Plan) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

<sup>26</sup> Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.



Monica Tanuhandaru  
Executive Director of Partnership for Governance Reform in Indonesia (Kemitraan)  
Implementing Entity Coordinator

Date: July, 28, 2016	Tel. and email: +62-21-22780580; <a href="mailto:Monica.Tanuhandaru@kemitraan.or.id">Monica.Tanuhandaru@kemitraan.or.id</a>
Project Contact Person:	Dewi Rizki
Tel. And Email:	+62-21-22780580; <a href="mailto:Dewi.Rizki@kemitraan.or.id">Dewi.Rizki@kemitraan.or.id</a>



Jakarta, 8 August 2018

Ref : No.S.41/NFP/VIII/2018

Attach :

Subject: Letter of Endorsment

To:

The Adaptation Fund Board

c/o The Adaptation Fund Board Secretariat

Email: [secretariat@adaptationfund.org](mailto:secretariat@adaptationfund.org)

Fax: +1 202 522 3405

Dear Adaptation Fund Board Secretariat,

We have received a full proposal from Kemitraan entitled:

**"Building Coastal City Resilience to Climate Change Impacts by Employing Hard and Soft Structure Interventions (Case Study: Pekalongan City)".**

I am writing to you as in my capacity as the National Designated Authority for the Adaptation Fund in Indonesia. We see this proposal is in accordance with the National priorities in implementing adaptation program and activities to reduce adverse impact of, and risks, poses by Climate Change in the vulnerable regions in Indonesia.

With this consideration, we strongly recommend the above proposal to be granted support from the Adaptation Fund Board. The program will be implemented and executed by The Partnership for Governance Reform in Indonesia.

Yours Sincerely,

Dr. Nur Masripatin

National Focal Point to the UNFCCC

Senior Advisor to the Minister of Environment and Forestry on  
Climate Change and International Conventions

ANNEX 1-XXX

## ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Prepared for the Implementation of the Program “*Building Coastal City Resilience to Climate Change Impacts and Natural Disasters*”



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## **I. INTRODUCTION**

### **I.1. Rationale**

This document of Environmental and Social Management Plan is developed to ensure that the proposed program implementation will align with the environmental and social safeguard of Adaptation Fund as well as the applicable national, regional and local regulations in area where the program is implemented. This document contains assessment of the required management, mitigation and monitoring activities to manage the relevant environmental and social impacts as identified during the risk identification and assessment process. It expresses how the program will try it utmost to conform to the provisions of Adaptation Fund Environmental and Social Policies by developing a structure that will ensure the program's potential risks will be managed in an effective manner.

### **I.2. Applicability of Plan**

The management measures set out within the plan is applicable throughout the program period; from planning until the implementation stage.

### **I.3. Summary of Project Description**

Climate change has led to the rise of sea level and changes in rainfall patterns in Pekalongan City. The rainfall pattern in recent years has become more intense and occurs in a shorter period, which then leads to flooding. Flooding in northern part of Pekalongan City, either those caused by increased rainfall or sea level rise, have contributed to many interconnected problems. Extreme climate events like heavy rains, combined with sea-level rise have resulted in more frequent and more unpredictable floods that threaten populations' security and goods. Climate change is thus impeding Pekalongan City development. One example of this impediment is the decrease of agricultural land area in nine villages of Pekalongan city that reaches 73% between the period 2007-2016 due to the land being submerged in sea water and also high salinity level of the irrigation water. This condition has threatened Pekalongan City food security by reducing rice and other agricultural production.

This program is specifically designed to reach a goal of *Building Coastal City Resilience to Climate Change Impacts and Natural Disasters*, with a particular focus economic/livelihood and food livelihood while simultaneously preserving the environment; touching not only practical aspect but also promoting policy. It will foster pro-poor adaptation actions that involve and benefit the most vulnerable communities in the city. Sustainable development principle will be held at core here to ensure efforts being done at one sector will not create negative impact and incremental losses in the other.

In view of this multifaceted issue, the proposed program framework will be instilled by multidisciplinary and iterative process, with a series of assessment, study and activities to be derived from. Accordingly, the program will not only emphasizing on building hard structure, but also strengthen soft structure (institutional realms, including capacity building) in addressing the issue; creating a paradigm shift from the conventional approach that mostly revolving around building infrastructure that could only serve short-term purposes to newer perspective that allow for continual development and evaluation. This approach will try to simultaneously address the issue of physical structure for coastal protection and adaptation, preserving and developing

community livelihood in addition to developing and promoting local tourism in coastal area; balancing the objectives in the above sectors without jeopardizing the sustainability of the others.

The proposed and selected adaptation activities being implemented under the umbrella of the program will be based on scientific basis to corroborate and better understand the pattern of current and future of climate risk. This science-based information is essential to create and develop an effective adaptation. Effective adaptation action should also be built on existing actions; adjusting and leveraging practices that are socially- and environmentally-friendly, while leaving practices that potentially cause adverse impact.

At the core of this framework is collaborative approach by fostering multi-stakeholder involvement, to bring about different interest on the issue and resolve it amicably to achieve common goals. To achieve the goal, the program will be conducted at 4 governance level, with main objectives at each level are as follows:

**1. Village Level**

- (i). Enhancing coastal community capacity in developing the village profile by implementing participatory climate risk assessment and implementing the ensuing climate change adaptation actions and initiatives
- (ii). Enhancing local community adaptive capacity, including developing livelihood strategies, by also taking into account relevant local wisdom

**2. City Level:**

- (i). Enhancing local government and other city stakeholders' capacity in developing climate risk assessment and utilizing the results to develop local climate change adaptation action plan (RAD API), as well as mainstreaming the plan into local development plan
- (ii). Implementing innovative adaptation measures, including those fostering sustainable utilization of natural resources, with implementation and financing scheme that can be replicated and disseminated to broader audience
- (iii). Establishing city-level knowledge management platform

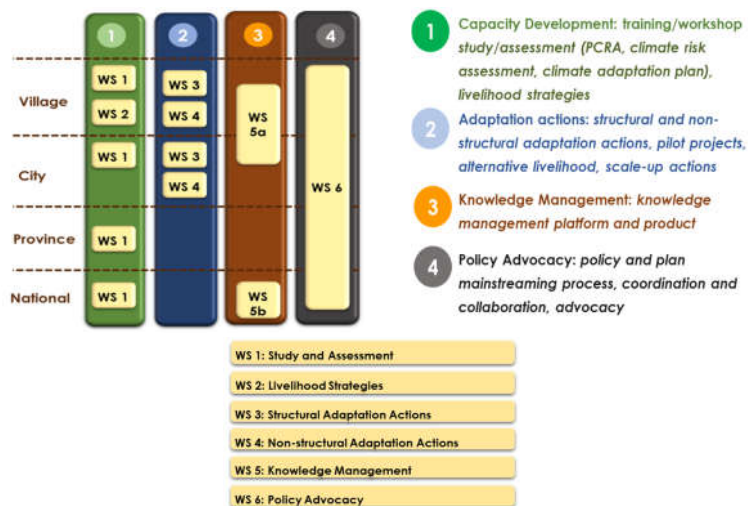
**3. Provincial Level:**

- (i). Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan, which in turn could foster better climate-related policy on climate financing and bottom-up planning.

**4. National Level**

- (i). Enriching SIDIK as risk assessment tools for coastal area
- (ii). Strengthening vertical coordination and collaboration between national and local government in climate adaptation context

Combination of bottom-up and top-down approach will be implemented within the proposed program to ensure a cohesive climate adaptation plan/program/policy and its implementation at all governance level. In general, the program will focus on 4 aspects, which are capacity development, adaptation action, knowledge management and policy advocacy. Figure 1 below illustrates the interconnection between actions at different governance level within the program, with brief information on each aspect.



**Figure 1. Interconnection of 4 Aspects at 4 Governance Level**

#### I.4. Compliance

The program and plan is complies with the national relevant regulation, standards and principles, as well as Adaptation Fund Environmental and Social Principle.

##### I.4.1. National Regulation

The applicable National Regulations to the plan are as follow:

- Law No. 32 Year 2009 on Environmental Protection and Management
- Government Regulation Number 27/2012 on Environmental Permit and Environmental Impact Assessment
- Ministry of Environment and Forestry Regulation No. 33 Year 2016 on Guidance for the Development of Climate Change Adaptation Action
- Ministry of Environment Regulations Number 5/2012 on Types of Activities that Needs to be Equipped with Environmental Impact Assessment
- Ministry of Public Works and Housing Construction and Development Standard, and Indonesia Building Codes

##### I.4.2. Adaptation Fund Environmental and Social Principles

The applicable Adaptation Fund Environmental and Social Principles are as follow:

- a. Compliance with the Law
- b. Access and equity
- c. Marginalized and vulnerable groups
- d. Human rights
- e. Gender equity and women's empowerment
- f. Core labour rights
- g. Indigenous people
- h. Involuntary resettlement
- i. Protection of natural habitats
- j. Conservation of biological diversity
- k. Climate change
- l. Pollution prevention and resource efficiency
- m. Public health
- n. Physical and cultural heritage
- o. Land and soil conservation

Compliance to the abovementioned principles will be outlined in further detail on section I.6 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

#### **I.5. SCOPE**

The management plan presented within the document considers risks being identified and assessed that outlined in section I.6 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT.

#### **I.6. ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT**

Environmental and social impact assessment for this proposed program is being done by following the chart below.

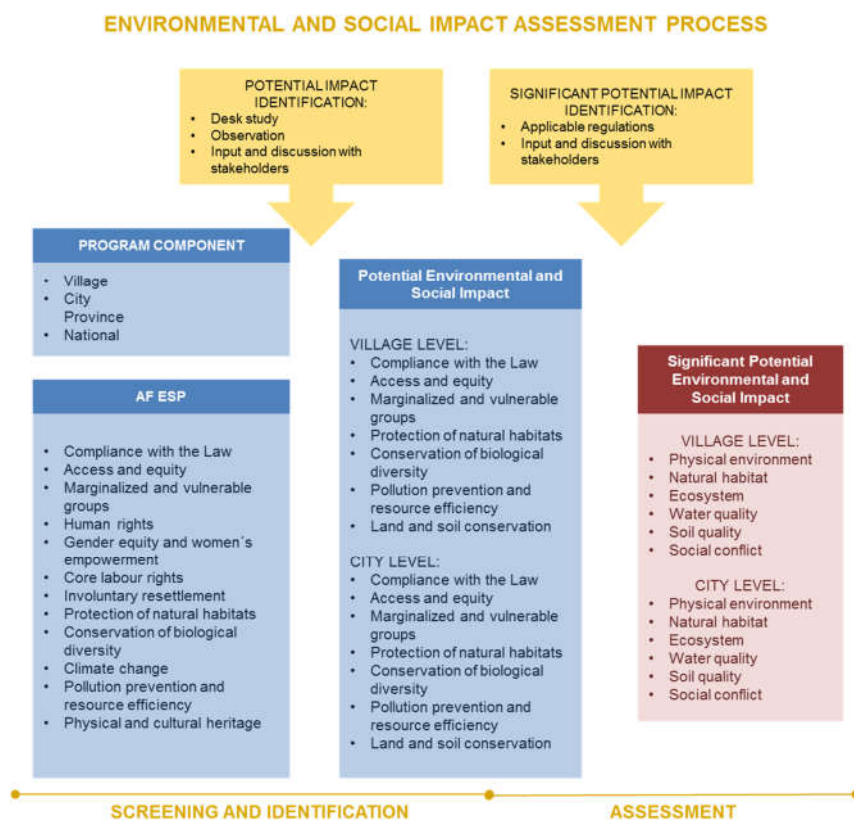


Figure 2. Environmental and Social Impact Assessment Process

#### 1.6.1. Environmental and Social Impact Screening and Identification

The screening and identification process is being undertaken at the initial stage of assessment to identify at which program component that potential environmental and social impacts associated with AF ESP could arise. The screening and identification result is presented at table 1 below. The process shows that no potential impacts can be identified for program implementation at province and national level. Potential impacts only identified at village and city level; and the program has no environmental and social impacts associated with 8 out of 15 AF ESP Principles.

**Table 1. Screening Result against AF ESP Principles**

No	ESP	Program Component (Level)			
		Village	City	Province	National
1	Compliance with the Law	√	√	-	-
2	Access and equity	√	√	-	-
3	Marginalized and Vulnerable Groups	√	√	-	-
4	Human Rights	-	-	-	-
5	Gender Equity and Women's Empowerment	-	-	-	-
6	Core Labour Rights	-	-	-	-
7	Indigenous People	-	-	-	-
8	Involuntary Resettlement	-	-	-	-
9	Protection of Natural Habitats	√	√	-	-
10	Conservation of Biological Diversity	√	√	-	-
11	Climate Change	-	-	-	-
12	Pollution Prevention and Resource Efficiency	√	√	-	-
13	Public Health	-	-	-	-
14	Physical and Cultural Heritage	-	-	-	-
15	Land and Soil Conservation	√	√	-	-

#### **1.6.2. Environmental and Social Impact Assessment**

From the screening and identification process, it was identified that potential environmental and social impacts only associated with 7 ESP principles, which are:

- Compliance with law
- Access and equity
- Marginalized and vulnerable groups
- Protection of natural habitats
- Conservation of biological diversity
- Pollution prevention and resource efficiency
- Land and soil conservation

Based on the preceding screening and identification process, the next step is to assess significant potential environmental and social impact at each component that associated with the abovementioned AF ESP Principle, and what output that could potentially resulting in the impacts. The impacts themselves are divided into two categories (environmental and social), which then further divided into a total of 6 (six) sub-categories depending on the receptor of the impacts. The sub categories are:

- a. Physical environment
- b. Natural habitat
- c. Ecosystem
- d. Water quality
- e. Soil quality
- f. Social conflict





Table 2. Significant Potential Environmental and Social Impact from Program Implementation

No	ESP	Program Component	Program Output	Environmental Component					
				Environmental					Social
				Physical Environment	Natural Habitat	Ecosystem	Water Quality	Soil Quality	Social Conflict
1	Compliance with the Law	Village Level	Output 1.2.1: Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism; supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity; sanitation; rain water harvesting construction etc.	Environmental impacts from specific adaptation actions, particularly those related to structural interventions	-	-	-	-	-
2		City Level	Output 2.2.1: Innovative and collaboration adaptation actions are implemented	Environmental impacts from specific adaptation actions, particularly those related to structural interventions	-	-	-	-	-

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3	Access and equity	Village Level	Output 1.1.2 -Enhancing coastal community capacity in developing the village information system and implementing the ensuing climate change adaptation actions	-	-	-	-	-	Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood
4		City Level	Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.	-	-	-	-	-	Social conflict arising from selection of community

			actions are implemented						member that will be the implementer of adaptation actions and alternative livelihood
5	Marginalized and Vulnerable Groups	Village Level	<p>Output 1.1.2 -Enhancing coastal community capacity in developing the village information system and implementing the ensuing climate change adaptation actions</p> <p>Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism; supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity; sanitation,</p>	-	-	-	-	-	<p>Social conflict arising from selection of priority activities site and design which could raise envy from other community member that will not directly exposed to the program</p>

			rain water harvesting construction etc.						
6		City Level	Output 2.2.1 Innovative and collaboration adaptation actions are implemented	-	-	-	-	-	Social conflict arising from selection of priority activities site and design which could raise envy from other community member that will not directly exposed to the program
7	Protection of Natural Habitats	Village Level	Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting	-	The impact of construction process of structural barrier (as coastal defence) to the existing surrounding ecosystem	-	-	-	-

			farmers group in cultivating rice and fish varieties that tolerant to high-salinity; sanitation; rain water harvesting construction etc.		Waste generation and water pollution from ecotourism site development and operational activities could disrupt natural habitat				
8		City-Level	Output 2.2.1 Innovative and collaboration adaptation actions are implemented	-	<p>The impact of construction process of structural barrier (as coastal defence) to the existing surrounding ecosystem</p> <p>Waste generation and water pollution from ecotourism site development and operational activities could disrupt natural habitat</p>	-	-	-	-

					Aquaculture farming preparation process				
9	Conservation of Biological Diversity	Village Level	Output 1-2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism; supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity; sanitation; rain water harvesting construction etc.	-	-	<p>Minor environmental and ecological disruption from hard and soft structure construction; for instance geotube construction process</p> <p>Minor environmental and ecological disruption from alteration of resource management including:</p> <ul style="list-style-type: none"> <li>• Introduction of new marine/fisheries species to the body of water</li> <li>• Introduction of new mangrove species to the environment</li> <li>• Negative impact on mangrove ecosystem due</li> </ul>	-	-	-

						to-over-extraction of mangrove honey			
40		City Level	Output 2.2.4 Innovative and collaboration adaptation actions are implemented	-	-	<p>Minor environmental and ecological disruption from hard and soft structure construction, for instance geotube and ecotourism site construction process</p> <p>Minor environmental and ecological disruption from alteration of resource management including:</p> <ul style="list-style-type: none"> <li>• Introduction of new marine/fisheries species to the body of water</li> <li>• Introduction of new mangrove species to the environment</li> <li>• Negative impact on mangrove ecosystem due to over-extraction of mangrove honey</li> </ul>	-	-	-

11	Pollution Prevention and Resource Efficiency	Village Level	Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.	-	-	-	Water pollution from hard and/or soft structure construction process  Water pollution from aquaculture farming practices, including: * Potential for overpopulation within the aquaculture farm * Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture farm * Traditional harvesting method that allows aquaculture water flows into drainage system * Non-existent aeration that allows sedimentation accumulation at the bottom of the pond  <del>Water pollution</del>	-	-
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							from the effluent of sanitation facilities		
42		City Level	Output 2.2.4 Innovative and collaboration adaptation actions are implemented	-	-	-	<p>Water pollution from hard and/or soft structure construction process</p> <p>Water pollution from aquaculture farming practices, including:</p> <ul style="list-style-type: none"> <li>• Potential for overpopulation within the aquaculture farm</li> <li>• Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture farm</li> <li>• Traditional harvesting method that allows aquaculture water flows into drainage system</li> <li>• Non-existent aeration that allows sedimentation</li> </ul>	-	-

							<p>accumulation at the bottom of the pond</p> <p>Water pollution due to waste generation from ecotourism activities</p> <p>Water pollution from the effluent of sanitation facilities</p>		
43	Land and Soil Conservation	Village Level	Output 1.2.4 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism; supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity; sanitation; rain water harvesting construction etc.	-	-	-	-	<p>Soil pollution from hard and/or soft structure construction, including water facilities construction</p> <p>Soil pollution from sanitation facilities use and construction</p> <p>Soil pollution from the effluent of sanitation facilities</p>	-

14		City Level	Output 2.2.1 Innovative and collaboration adaptation actions are implemented	-	-	-	-	Soil pollution from hard and/or soft structure construction, including water facilities construction  Soil pollution from sanitation facilities use and construction  Soil pollution from the effluent of sanitation facilities  Soil pollution due to waste generation from ecotourism activities	-
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No	ESP	Program Component	Program Output/Activity	Environmental Component					
				Environmental					Social
				Physical Environment	Natural Habitat	Ecosystem	Water Quality	Soil Quality	Social Conflict
1	Compliance with the Law	Village Level	Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism,	-	-	-	-	-	-

			<a href="#">supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.</a>						
			<a href="#">Activity 1.2.1.2 Implement agreed adaptation action in 8 villages</a>	-	-	-	-	-	-
			<a href="#">Reconstruction of individual sanitation facilities</a>	<a href="#">Physical environment disruption from mobilization and reconstruction process</a>	-	-	-	-	-
			<a href="#">Construction of communal sanitation facilities</a>	<a href="#">Physical environment disruption from mobilization and construction process</a>	-	-	-	-	-
<a href="#">2</a>		<a href="#">City Level</a>	<a href="#">Output 2.2.1 Innovative and collaboration adaptation actions are implemented</a>	-	-	-	-	-	-
			<a href="#">Activity 2.2.1.3 Pilot innovative adaptation measures are implemented in collaboration with other stakeholders and</a>	-	-	-	-	-	-

			<u>evaluated for future reference</u>						
			<u>Coastal embankment</u>	Physical environment disruption from mobilization and construction process	=	=	=	=	=
			<u>Eco-tourism</u>	Physical environment disruption from mobilization and construction process	=	=	=	=	=
			<u>Reconstruction of individual sanitation facilities</u>	Physical environment disruption from mobilization and reconstruction process	=	=	=	=	=
			<u>Construction of communal sanitation facilities</u>	Physical environment disruption from mobilization and construction process	=	=	=	=	=
<u>3</u>	<u>Access and equity</u>	<u>Village Level</u>	<u>Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in</u>	=	=	=	=	=	=

			<u>cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.</u>						
			<u>Activity 1.2.1.2 Implement agreed adaptation action in 8 villages</u>	=	=	=	=	=	<u>Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood</u>
<u>4</u>		<u>City Level</u>	<u>Output 2.2.1 Innovative and collaboration adaptation actions are implemented</u>	=	=	=	=	=	=
			<u>Activity 2.2.1.3 Pilot innovative adaptation measures are implemented in collaboration with other stakeholders and evaluated for future reference</u>	=	=	=	=	=	<u>Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood</u>

<u>5</u>	<u>Marginalized and Vulnerable Groups</u>	<u>Village Level</u>	<u>Output 1.2.1</u> <u>Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.</u>	-	-	-	-	-	-
			<u>Activity 1.2.1.2</u> <u>Implement agreed adaptation action in 8 villages</u>	-	-	-	-	-	<u>Social conflict arising from selection of priority activities site and design which could raise envy from other community member that will not directly exposed to the program</u>
<u>6</u>		<u>City Level</u>	<u>Output 2.2.1</u> <u>Innovative and collaboration adaptation actions are implemented</u>	-	-	-	-	-	-

			<u>Activity 2.2.1.3</u> <u>Pilot innovative adaptation measures are implemented in collaboration with other stakeholders and evaluated for future reference</u>	-	-	-	-	-	<u>Social conflict arising from selection of priority activities site and design which could raise envy from other community member that will not directly exposed to the program</u>
<u>Z</u>	<u>Protection of Natural Habitats</u>	<u>Village Level</u>	<u>Output 1.2.1</u> <u>Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.</u>	-	-	-	-	-	-
			<u>Activity 1.2.1.2</u> <u>Implement agreed adaptation action in 8 villages</u>	-	-	-	-	-	-
			<u>Vennamei shrimp aquaculture pond</u>	-	<u>Aquaculture preparation process could disrupt the existing natural</u>	-	-	-	-



					habitat				
			<u>Bandeng farm pond</u>	-	<u>Bandeng farm pond preparation process could disrupt the existing natural habitat</u>	-	-	-	-
			<u>Mangrove restoration</u>	-	<u>Mobilization and planting process of mangrove belt could potentially impact the surrounding ecosystem</u>	-	-	-	-
			<u>Construction of communal sanitation facilities</u>	-	<u>Potential impact to the surrounding ecosystem during construction and operational process of floating sanitation facilities</u>	-	-	-	-
<u>8</u>		<u>City Level</u>	<u>Output 2.2.1 Innovative and collaboration adaptation actions are implemented</u>	-	-	-	-	-	-
			<u>Activity 2.2.1.3 Pilot innovative adaptation measures are implemented in collaboration with other</u>	-	-	-	-	-	-

			<u>stakeholders and evaluated for future reference</u>						
			<u>Coastal embankment</u>	=	<u>The impact of geotube mobilization and construction process to the existing surrounding ecosystem</u>	=	=	=	=
			<u>Vennamei shrimp aquaculture pond</u>	=	<u>Aquaculture preparation process could disrupt the existing natural habitat</u>	=	=	=	=
			<u>Bandeng farm pond</u>	=	<u>Bandeng farm pond preparation process could disrupt the existing natural habitat</u>	=	=	=	=
			<u>Eco-tourism</u>	=	<u>Waste generation and water pollution from ecotourism site preparation, development and operational activities could disrupt natural habitat</u>	=	=	=	=

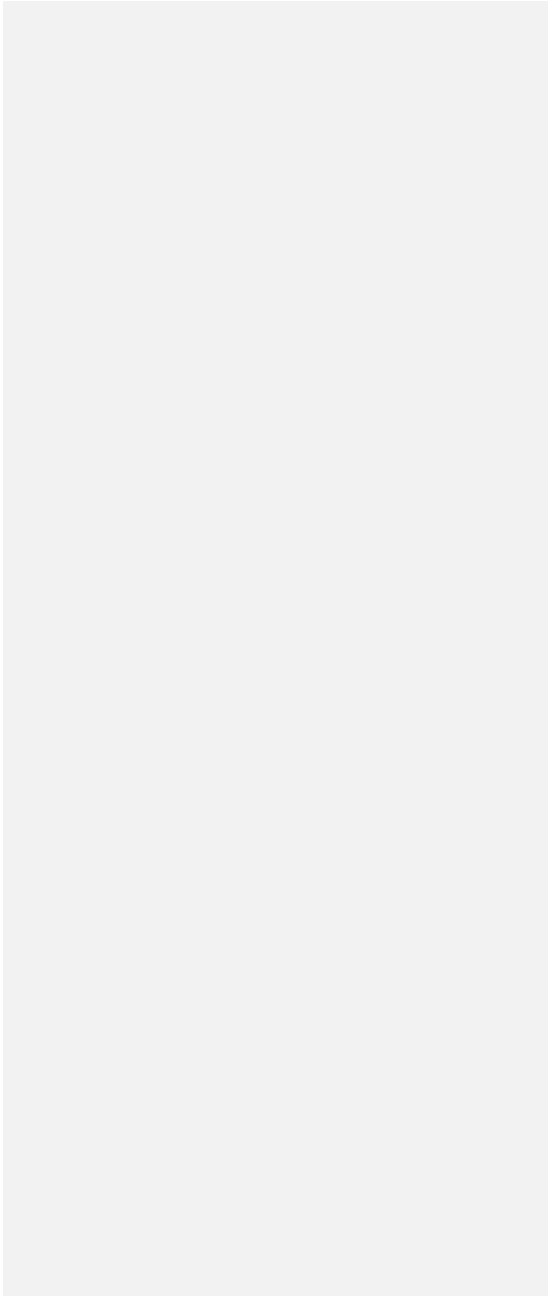
			<u>Construction of communal sanitation facilities</u>	-	Potential impact to natural habitat during construction and operational process of floating sanitation facilities	-	-	-	-
9	<u>Conservation of Biological Diversity</u>	<u>Village Level</u>	<u>Output 1.2.1</u> <u>Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.</u>	-	-	-	-	-	-
			<u>Activity 1.2.1.2</u> <u>Implement agreed adaptation action in 8 villages</u>	-	-	-	-	-	-
			<u>Vennamei shrimp aquaculture pond</u>	-	-	<u>Minor ecological disruption from introduction of vennamei shrimp to body of water</u>	-	-	-
			<u>Bandeng farm pond</u>	-	-	<u>Minor ecological</u>	-	-	-

						disruption from introduction of bandeng to body of water			
			Mangrove restoration	-	-	Minor environmental and ecological disruption from alteration of resource management from introduction of new mangrove species to the environment	=	=	=
10		City Level	Output 2.2.1 Innovative and collaboration adaptation actions are implemented	=	=	=	=	=	=
			Activity 2.2.1.3 Pilot innovative adaptation measures are implemented in collaboration with other stakeholders and evaluated for future reference	=	=	=	=	=	=
			Coastal embankment	=	=	Ecosystem disruption from mobilization and construction process of geotube	=	=	=

			<u>Mangrove restoration</u>	=	=	Minor environmental and ecological disruption from alteration of resource management from introduction of new mangrove species to the environment	=	=	=
			<u>Vennamei shrimp aquaculture pond</u>	=	=	Minor ecological disruption from introduction of vennamei shrimp to body of water	=	=	=
			<u>Bandeng farm pond</u>	=	=	Minor ecological disruption from introduction of bandeng to body of water	=	=	=
			<u>Eco-tourism</u>	=	=	Waste generation and water pollution from ecotourism site preparation, development and operational activities could disrupt natural habitat	=	=	=

			<u>Construction of communal sanitation facilities</u>	-	-	<u>Potential impact to the surrounding ecosystem during construction and operational process of floating sanitation facilities</u>	-	-	-
<u>11</u>	<u>Pollution Prevention and Resource Efficiency</u>	<u>Village Level</u>	<u>Output 1.2.1</u> <u>Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.</u>	-	-	-	-	-	-
			<u>Activity 1.2.1.2</u> <u>Implement agreed adaptation action in 8 villages</u>	-	-	-	-	-	-
			<u>Vennamei shrimp aquaculture pond</u>	-	-	-	<u>Water pollution from aquaculture farming practices, including:</u> <u>• Potential for overpopulation within the aquaculture farm</u>	-	-

							<ul style="list-style-type: none"><li>• <u>Sedimentation (increased concentration of organic matter) due to accumulation of shrimp fee in aquaculture farm</u></li><li>• <u>Traditional harvesting method that allows aquaculture water flows into drainage system</u></li><li>• <u>Non-existent aeration that allows sedimentation accumulation at the bottom of the pond</u></li></ul>		
			<u>Bandeng farm pond</u>	-	-	-	<u>Water pollution from aquaculture farming practices, including:</u> <ul style="list-style-type: none"><li>• <u>Potential for overpopulation within the aquaculture farm</u></li><li>• <u>Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture</u></li></ul>	-	-

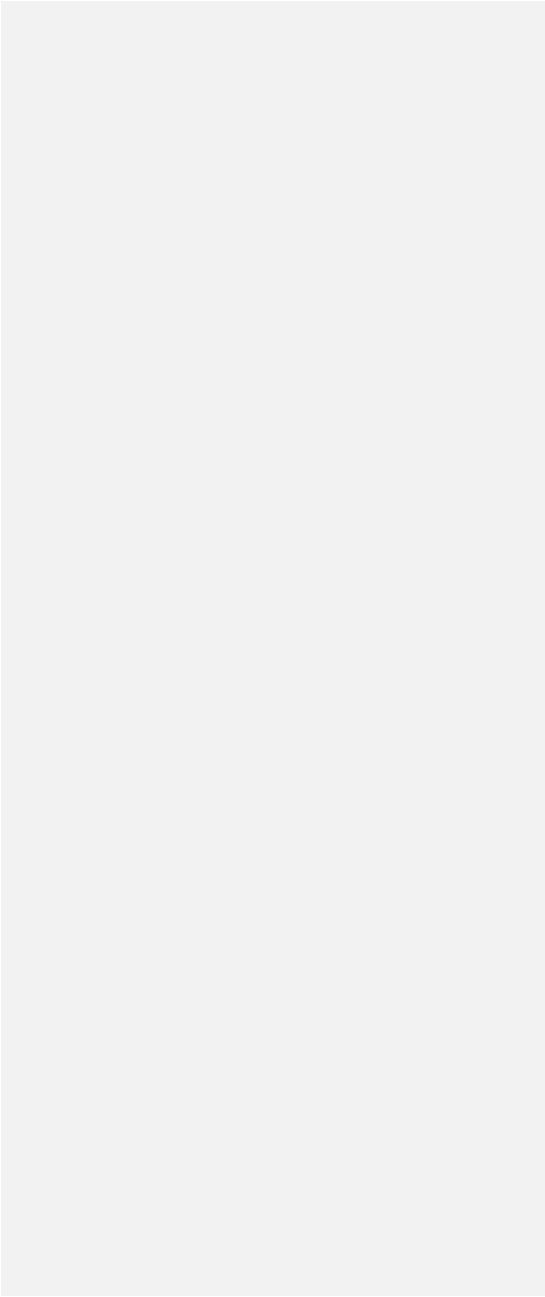


							<u>farm</u> <ul style="list-style-type: none"> <li>• <u>Traditional harvesting method that allows aquaculture water flows into drainage system</u></li> <li>• <u>Non-existent aeration that allows sedimentation accumulation at the bottom of the pond</u></li> </ul>		
			<u>Mangrove restoration</u>	-	-	-	<u>Water pollution from mangrove belt planting process</u>	-	-
			<u>Reconstruction of individual sanitation facilities</u>	-	-	-	<u>Ground water pollution from construction process of the facilities and the effluent of sanitation facilities (during its operational phase)</u>	-	-
			<u>Construction of communal sanitation facilities</u>	-	-	-	<u>Ground water or sea water pollution from construction process of the facilities and the effluent of sanitation facilities (during its operational phase)</u>	-	-



12		City Level	<u>Output 2.2.1</u> <u>Innovative and</u> <u>collaboration</u> <u>adaptation</u> <u>actions are</u> <u>implemented</u>	-	-	-	-	-	-
			<u>Activity 2.2.1.3</u> <u>Pilot innovative</u> <u>adaptation</u> <u>measures are</u> <u>implemented in</u> <u>collaboration with</u> <u>other</u> <u>stakeholders and</u> <u>evaluated for</u> <u>future reference</u>	-	-	-	-	-	-
			<u>Coastal</u> <u>embankment</u>	-	-	-	<u>Water</u> <u>pollution from</u> <u>mobilization</u> <u>and</u> <u>construction</u> <u>process of</u> <u>geotube</u>	-	-
			<u>Mangrove</u> <u>restoration</u>	-	-	-	<u>Water</u> <u>pollution from</u> <u>mangrove belt</u> <u>planting</u> <u>process</u>	-	-
			<u>Vennamei</u> <u>shrimp</u> <u>aquaculture pond</u>	-	-	-	<u>Water</u> <u>pollution from</u> <u>aquaculture</u> <u>farming</u> <u>practices,</u> <u>including:</u> <ul style="list-style-type: none"><li><u>• Potential for</u> <u>overpopulation</u> <u>within the</u> <u>aquaculture</u> <u>farm</u></li><li><u>• Sedimentation</u> <u>(increased</u> <u>concentration</u> <u>of organic</u></li></ul>	-	-

							<u>matter) due to accumulation of shrimp fee in aquaculture farm</u> <ul style="list-style-type: none"><li>• <u>Traditional harvesting method that allows aquaculture water flows into drainage system</u></li><li>• <u>Non-existent aeration that allows sedimentation accumulation at the bottom of the pond</u></li></ul>		
			<u>Bandeng/nila farm pond</u>	-	-	-	<u>Water pollution from aquaculture farming practices, including:</u> <ul style="list-style-type: none"><li>• <u>Potential for overpopulation within the aquaculture farm</u></li><li>• <u>Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture farm</u></li><li>• <u>Traditional harvesting method that allows</u></li></ul>	-	-



							<a href="#">aquaculture water flows into drainage system</a> • <a href="#">Non-existent aeration that allows sedimentation accumulation at the bottom of the pond</a>		
			<a href="#">Eco-tourism</a>	-	-	-	<a href="#">Water pollution due to waste generation and other operational activities in the eco-tourism site</a>	-	-
			<a href="#">Reconstruction of individual sanitation facilities</a>	-	-	-	<a href="#">Ground water pollution from construction process of the facilities and the effluent of sanitation facilities (during its operational phase)</a>	-	-
			<a href="#">Construction of communal sanitation facilities</a>	-	-	-	<a href="#">Ground water or sea water pollution from construction process of the facilities and the effluent of sanitation facilities (during its operational phase)</a>	-	-

13	<u>Land and Soil Conservation</u>	<u>Village Level</u>	<u>Output 1.2.1</u> <u>Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.</u>	-	-	-	-	-	-
			<u>Activity 1.2.1.2</u> <u>Implement agreed adaptation action in 8 villages</u>	-	-	-	-	-	-
			<u>Reconstructi</u> <u>on of individual</u> <u>sanitation</u> <u>facilities</u>	-	-	-	-	<u>Soil pollution from construction process of the facilities and potential soil contamination from effluent of sanitation facilities (during its operational phase)</u>	-
			<u>Construction</u> <u>of communal</u> <u>sanitation</u> <u>facilities</u>	-	-	-	-	<u>Soil pollution from construction process of the facilities and the effluent of sanitation</u>	-

								facilities (if the facilities are not floating design)	
14		City Level	Output 2.2.1 <u>Innovative and collaboration adaptation actions are implemented</u>	-	-	-	-	-	-
			Activity 2.2.1.3 <u>Pilot innovative adaptation measures are implemented in collaboration with other stakeholders and evaluated for future reference</u>	-	-	-	-	-	-
			<u>Coastal embankment</u>	-	-	-	-	<u>Soil pollution from mobiization and construction process of geotube</u>	-
			<u>Eco-tourism</u>	-	-	-	-	<u>Soil pollution from waste generation and other operational activities in the eco-tourism site</u>	-
			<u>Reconstructi on of individual sanitation facilities</u>	-	-	-	-	<u>Soil pollution from construction process of the facilities and potential soil contamination</u>	-

								from effluent of sanitation facilities (during its operational phase)	
			Construction of communal sanitation facilities	=	=	=	=	Soil pollution from construction process of the facilities and the effluent of sanitation facilities (if the facilities are not floating design)	=

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Significant potential environmental and social impacts based on the assessment above will be managed accordingly throughout the program by referring to the environmental and social management plan that will be presented in section I.7 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN.

### 1.6.3. Compliance to AF ESP

The following section presents the program compliance to AF ESP Principles.

#### a. *Compliance with the Law*

The program is designed in compliance with all applicable national, regional and local law, including:

- Law Number 32/2009 on Environmental Protection and Management.
- Government Regulation Number 27/2012 on Environmental Permit and Environmental Impact Assessment
- Ministry of Environment Regulations Number 5/2012 on Types of Activities that Needs to be Equipped with Environmental Impact Assessment
- Ministry of Public Works and Housing Construction and Development Standard

~~Yet~~However, additional permit and compulsory assessment still need to be obtained and undertaken for specific adaptation actions that will be implemented in future time within the program timeframe; particularly for actions listed in the Ministry of Environment Regulation No. 5/2012. ~~For the proposed program, the selected adaptation actions do not falls under the category of activities that need to be equipped with Environment Impact Assessment.~~ Yet, the PMU will ensure that all activities implemented, particularly those related to structural construction (sanitation facilities, coastal embankment, will prevent negative impacts to the surrounding environment by adhering to Law 32/2009 and also Housing Construction and Development Standard from the Ministry of Public Works

#### Potential risks:

~~Environmental impacts from specific adaptation actions~~ Disruption of physical environment from mobilization and construction process of adaptation actions.

#### Requirements and Managements:

~~If the chosen adaptation options are categorized as activities regulated by the Ministry of Environment Regulations No. 5/2012, the relevant permit and assessment process will be ensured to be done accordingly. Aside being outlined in the said regulation, the needed permit and assessment also stated in Part II, Section E~~Prepare the necessary environmental management plan for each activity listed in ESMP.

#### b. *Access and Equity*

The program is designed to ensure fair allocation of access to the community, including in information dissemination. To further disseminate knowledge related to the program, knowledge board will be built in community centre or village office; making it accessible to all community.

Participatory approach employed by the program will further ensure access and equity principle being undertaken during program implementation.

One issue being raised during FGD on Gender Issue conducted during the proposal development stage is workshops and meetings timing that should be done at night time to ensure women's group participation in the process. This issue will be taken into

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account when designing the relevant activities to ensure all groups have similar access to program information and implementation process.

Despite the effort in ensuring access and equity principle being carried out within the program, there still a minor potential social risks that could arise during program implementation.

Potential risks:

Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood [at village and city level implementation](#).

Requirements and Managements:

Stakeholder mapping as the basis for assessment on implementer selection, fair role and responsibilities among stakeholders, and also activities site location (including knowledge board location) that could benefit wider community

c. *Marginalized and Vulnerable Groups*

Marginalized and vulnerable groups are the targeted beneficiaries of the program. They will not only act as the passive actor within the program, but also actively involved in the program implementation.

The proposed program will employ participatory approach, particularly at local level, by involving women groups, most vulnerable groups and community representative from different socio-economic level during training, discussion forum and risk assessment process. The planned adaptation actions and alternative livelihood also designed by taking into account their interests.

However, there still a minor potential social risks that could arise during program implementation.

Potential risks:

Social conflict arising from selection of priority activities site and design [\(at village and city level implementation\)](#) which could raise envy from other community member that will not directly exposed to the program

Requirements and Managements:

- Social impact assessment and management plan on potential adaptation actions during prioritization process. Pro-poor actions (action that could benefit those who have the least economic adaptive capacity but has a high exposure to climate risk) should be among the priority
- Adaptation action design (the site location and structural design for hard structure) that take account the needs and suitability for elderly, children groups, and disable groups; to ensure they can experience the benefit

d. *Human Rights*

The proposed program is intended to elevate the quality of life of the beneficiaries (including marginalized and vulnerable groups) by creating a better environment for them (physical, social and economic environment).

Furthermore, The Republic of Indonesia has ratified the following International Covenant:

- The International Covenant on Economic, Social, and Cultural Rights into Law Number 11/2005
- International Covenant on Civil and Political Rights into Law Number 12/2005.



The proposed program will adhere to these laws and ensure that Human Rights principles are being carried out throughout the course of the program.

e. *Gender Equity and Women's Empowerment*

The Republic of Indonesia has ratified the Convention on the Elimination of All Forms Against Women/CEDAW into Law Number 7/1984. Hence the proposed program will comply with this law and also other applicable national law on Gender Equity and Justice.

Women groups will be an active participant in the program, where their representative will be selected as Village Working Group member. Furthermore, the program is designed so that trainings on economic livelihood will involve female participant; to ensure they will receive economic benefits from the actions. There is no risk that the husbands will object their wives new livelihood since it will support their household economy.

f. *Core Labour Rights*

Relevant to labour rights, the nationally applicable regulations are as below:

- Law No. 80 of 1957 concerning Ratification of ILO Convention No. 100 on Equal Remuneration for Men and Women Workers for Work of Equal Value
- Law No. 7 of 1984 concerning Ratification of the Convention on the Elimination of All Forms of Discrimination Against Women;
- Law No. 21 of 1999 concerning Ratification of ILO Convention No. 111 regarding Discrimination in Employment and Occupation.
- Law No. 13 of 2003 on Manpower

Accordingly, labour works done under this program will adhere to the above laws, including payment issue. Additionally, the program will also ensure that it will comply with ILO Convention No. 138 and 182 on Child Labour, by assuring that there will be no child labour involved in the program. The program will not pose any risk on labour rights since it will equipped the community member with additional skills

g. *Indigenous People*

Community resides within the geographical scope of the proposed program came from similar ethnicity, and has a well-established social norm. Accordingly, there is no risk related to indigenous people for this proposed program

h. *Involuntary Resettlement*

Resettlement for community who resides in permanently inundated area is issue that had been raised in the past, but put on hold due to local government budget constraint.

During the full proposal development stage it has been agreed with the city stakeholders (including government and community) that resettlement will not be a part of the proposed adaptation actions. Hence there is no risk of involuntary resettlement for the program.

i. *Protection of Natural Habitats*

As a coastal area, protection of natural habitat is essential to be taken throughout the course of the program. Mangrove, the natural habitat for fish and shell fish, has been the green belt for Pekalongan City shoreline for the past decade, protecting the area to a certain extent from sea-related risk. However, mangrove condition in the area has been degraded in the past years.

Potential risks:

~~Minor natural habitat~~ ~~Minor environmental and ecological~~ ~~Disruption-disruption from aquaculture preparation activity, mangrove restoration process, as well as mobilization and construction process of coastal embankment, eco-tourism site and communal sanitation facilities~~ ~~hard and soft structure construction~~

Requirements and Managements:

- ~~• Environmental Impact Assessment for activities that falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012)~~
- Environmental Management and Monitoring Plan for the abovementioned activities ~~hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA~~
- Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on natural habitat protection to ensure there will be no adverse impact to natural habitat from the activities' implementation

j. *Conservation of Biological Diversity*

Coastal resilience aimed by this proposed program is not only focusing on human resilience, but also considering the corresponding biodiversity.

Potential risks:

Minor environmental and ecological disruption from hard and/or soft structure construction (coastal embankment, mangrove belt, eco-tourism site and communal sanitation facilities) and alteration of resource management (introduction of ing-new shrimp and fish species and extracting mangrove honeyto body of water)

Requirements and Managements:

- ~~• Environmental Impact Assessment for activities that falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012)~~
- Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA; including for activities that are related to the introduction of foreign and invasive species; how the said species will survive and interact in a new environment (e.g. Vennamei shrimp)
- The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other

k. *Climate Change*

Activities under the proposed program will not significantly contribute to the increase of greenhouse gas emission or other climate change drivers.

l. *Pollution Prevention and Resource Efficiency*

Activities conducted within the program have the potential to cause pollution if not being managed carefully.

Potential risks:

- Water pollution from hard and soft structure construction (coastal embankment, eco-tourism site, mangrove belt and sanitation facilities), existing agriculture and farming practices, alteration of resource management (introduction of shrimp and fish species to body of water), and also by product from alternative livelihood and sanitation facilities' effluent.  
Water pollution from hard and soft structure construction, existing agriculture and farming practices, alteration of resource management (introducing new shrimp species and extracting mangrove honey), and by product from alternative livelihood
- Sedimentation due to accumulation of fish feed in brackish water fishery

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Requirements and Managements:

- Environmental Impact Assessment for activities that falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012)
- Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA
- Assessment on a more environmentally friendly farming and fishing method/practices

m. *Public Health*

There is no risk to public health from the program. The program activities will continually be ensured for not placing community's health and safety in dangerous state by adhering to the relevant applicable laws and regulations.

n. *Physical and Cultural Heritage*

There is no risk to physical and cultural heritage from the program since there is no physical and cultural heritage located within the geographical scope of the proposed program.

o. *Land and Soil Conservation*

Inundation from coastal flooding in the targeted program area has resulted in adverse impact, transforming productive land into unproductive one. This proposed program aims to reduce the inundated area, preventing them from turning into unproductive land by implementing diverse adaptation measures.

Potential risks:

Soil pollution from hard and soft structure construction, existing agriculture (the use of pesticide) and farming practices, and by product from alternative livelihood

Requirements and Managements:

- Environmental Impact Assessment for activities that falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012)
- Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA
- ~~Assessment on a more environmentally friendly farming and fishing method/practices~~

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#### 1.6.4. Categorization

In view of the above environmental and social impact assessment process, can be seen that the program implementation has several potential risks that are considered as minor, small scale (limited impacts and not widely spread) and easily mitigated. These risks can be avoided by implementing adequate mitigation measures. With regards to Risk Categorization of AF, the program can be categorized as “**Category B**” where it has potential adverse impacts but in small number, small scale, not widespread and easily mitigated.

### 1.7. ENVIRONMENTAL AND SOCIAL MITIGATION PLAN

#### 1.7.1. Environmental and Social Impact Mitigation Plan

Mitigating measures for the assessed significant potential environmental and social impacts is presented in table 3 below. The measures will be implemented and utilised by the program to mitigate the potential risks and also ensure the compliance of program implementation to AF Environmental and Social Policy. From the beginning of the program period, the stakeholders will be informed on the potential risks associated with the program and the corresponding mitigation measures in place. This Environmental and Social Management Plan document will be communicated to them; not only during the program preparation phase, but also throughout the course of the program, to ensure all parties involved are aware of the risks and the appropriate mitigation measures.

**Table 3. Environmental and Social Impact Mitigation Plan**

No	ESP	Type of Impacts	Impacts Description	Mitigation Measures	PIC	Relevant Stakeholders
1	Compliance with the Law	Environmental	Environmental impacts from specific adaptation actions, particularly those related to structural interventions	<ul style="list-style-type: none"> <li>▲ Conducting EIA for adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012.</li> <li>▲ The relevant Environmental Monitoring and Management Plan will be developed for the particular activities</li> <li>▲ PMU will ensure that the monitoring and management plan is being adhered</li> </ul>	Construction company and PMU	NIE, Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City
2	Access and equity	Social	Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood	<ul style="list-style-type: none"> <li>▲ Conduct stakeholders mapping during project planning stage as the basis for determining the appropriate project implementer, allocating fair roles and responsibilities among stakeholders, and selecting the appropriate activities site location (including</li> </ul>	PMU	Village and City Working Group

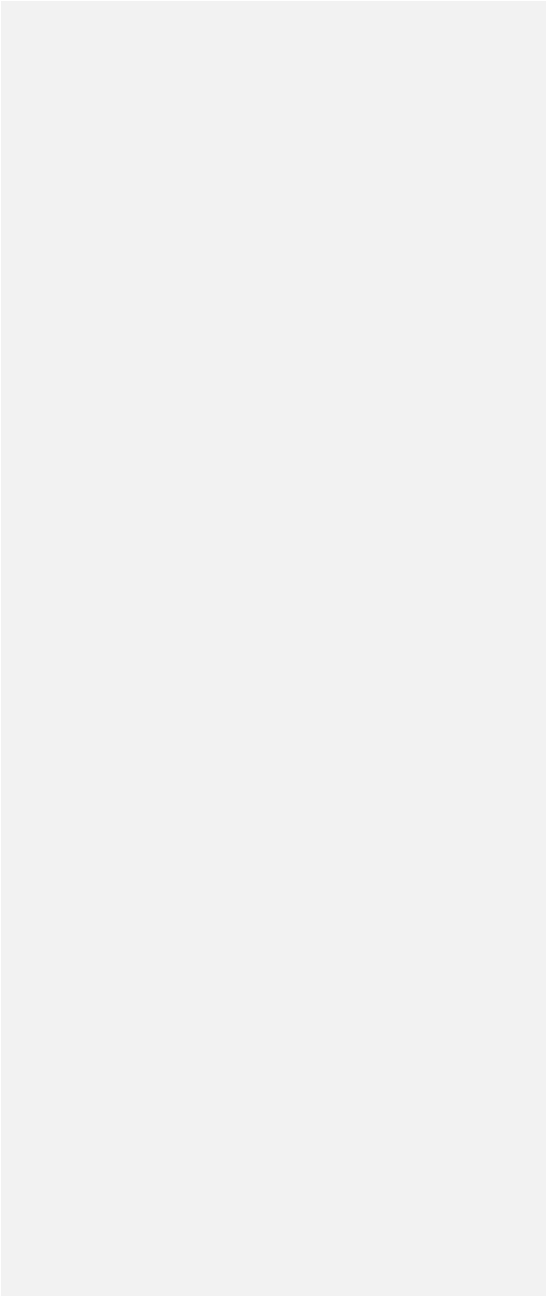
				<p>knowledge-board location) that could benefit wider community</p> <ul style="list-style-type: none"> <li>▲ Involving village working groups (which members are community representative) in the selection process</li> <li>▲ Select working group member that could really represent the voice and interest of all layers of community and city stakeholder</li> </ul>		
3	Marginalized and Vulnerable Groups	Social	Social conflict arising from selection of priority activities site and design which could raise envy from other community member that will not directly exposed to the program	<ul style="list-style-type: none"> <li>▲ Conduct social impact assessment and develop the corresponding management plan on potential adaptation actions during prioritization process.</li> <li>▲ Put priority on pro-poor adaptation actions (action that could benefit those who have the least economic adaptive capacity but has a high exposure to climate risk)</li> <li>▲ Adaptation action design (the site location and structural design)</li> </ul>	PMU	Village and City Working Group

				<p>will take account of the needs and suitability for elderly, children groups, and disable groups</p> <ul style="list-style-type: none"><li>▲ Develop visibility materials that outlines background from the selection and communicate the materials to wider community</li><li>▲ Involving village working groups (which members are community representative) in the selection process</li><li>▲ Select working group member that could really represent the voice and interest of all layers of community and city stakeholder</li></ul>		
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4	Protection of Natural Habitats	Environmental	<p>Minor environmental and ecological disruption from hard and soft structure construction or other adaptation activities, for instance:</p> <ul style="list-style-type: none"> <li>the impact of construction process of structural barrier (as coastal defence) to the existing surrounding ecosystem</li> <li>waste generation and water pollution from ecotourism site development and operational activities</li> <li>aquaculture farming preparation process</li> </ul>	<p>▲ If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan</p> <p>▲ Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA</p> <p>▲ Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on natural habitat protection</p>	Construction company and PMU	<p>Cleanliness Agency, Environmental Agency, Public Works Agency, Mairne and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community</p>
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				<ul style="list-style-type: none"><li>▲ Build temporary sediment trap during structural coastal defense construction process as well as ecotourism site development to control abrasion and sedimentation within mangrove ecosystem</li><li>▲ Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan</li><li>▲ Ensure that aquaculture farming will only be done in existing aquaculture area or idle aquaculture land so that the activities will not open a new area and disrupt the existing natural habitat</li></ul>		
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5	Conservation of Biological Diversity	Environmental	Minor environmental and ecological disruption from hard and soft structure construction, for instance geotube and ecotourism site construction process	<p>▲ If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan</p> <p>▲ Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA</p> <p>▲ The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of</p>	Construction company and PMU	Environmental Agency, Tourism Agency, Public Works Agency and Local Development Planning Board of Pekalongan City, Local community
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				Coastal Area and Small Islands and other <ul style="list-style-type: none"> <li>▲ Build temporary sediment trap during structural coastal defense construction process as well as ecotourism site development to control abrasion and sedimentation within mangrove ecosystem</li> <li>▲ Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan</li> </ul>		
6			Minor environmental and ecological disruption from alteration of resource management including: <ul style="list-style-type: none"> <li>▲ Introduction of new marine/fisheries species to the body of water</li> <li>▲ Introduction of new mangrove species to the environment</li> <li>▲ Negative impact on</li> </ul>	<ul style="list-style-type: none"> <li>▲ The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other</li> <li>▲ Primary assessment to see how the new marine</li> </ul>	PMU	Marine and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community

			<p>mangrove ecosystem due to over-extraction of mangrove honey</p>	<p>species will survive and interact in a new environment (e.g. Vengeance shrimp)</p> <ul style="list-style-type: none"> <li>Assess the most appropriate location to introduce the new mangrove species</li> <li>Educate the community on proper extraction method and quantity for mangrove honey</li> </ul>		
7	Pollution Prevention and Resource Efficiency	Environmental	<p>Water pollution from hard and/or soft structure construction process</p>	<ul style="list-style-type: none"> <li>If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan</li> <li>Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create</li> </ul>	<p>Construction company and PMU</p>	<p>Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City</p>

				adverse impacts, that does not falls under the category that needs EIA		
8			<p>Water pollution from aquaculture farming practices, including:</p> <ul style="list-style-type: none"> <li>▲ Potential for overpopulation within the aquaculture farm</li> <li>▲ Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture farm</li> <li>● Traditional harvesting method that allows aquaculture water flows into drainage system</li> </ul>	<ul style="list-style-type: none"> <li>▲ Build temporary sediment and oil trap during structural coastal defence construction process, water and sanitation facilities construction process, as well as ecotourism site development to control influent of oil, and also abrasion and sedimentation</li> <li>▲ Educate the community on environmentally friendly aquaculture farming method/practices, including efficient use of feed and proper harvesting technique</li> <li>▲ Equipped the farm with small windmill that allow aeration in the pond</li> <li>▲ Create sediment trap that is suitable for the farm</li> <li>● Develop environmental procedures for aquaculture farming</li> </ul>	PMU	Marine and Fisheries Agency, Environmental Agency and Local Development Planning Board of Pekalongan City, Local community

			<ul style="list-style-type: none"> <li>▲ Non-existent aeration that allows sedimentation accumulation at the bottom of the pond</li> </ul>	activities, including water and waste management plan <ul style="list-style-type: none"> <li>◆ Regular monitoring of surface water quality inside the farm and in drainage system connected to the farm</li> </ul>		
9			Water pollution due to waste generation from ecotourism activities	<ul style="list-style-type: none"> <li>▲ Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan</li> <li>▲ Coordinate with Cleanliness Agency of Pekalongan City in the waste management activities</li> <li>▲ As a community-based ecotourism, involve the community in the waste management process, including train them to be able to utilize the waste as additional income; either by creating added value to the waste (compost, recycling) from the waste or collect waste that has monetary value</li> </ul>	PMU and Ecotourism Implementer	Environmental Agency, Cleanliness Agency, and Local Development Planning Board of Pekalongan City, Local community

				(plastic, paper, metal)		
10			Water pollution from the effluent of sanitation facilities	<ul style="list-style-type: none"> <li>▲ Rigorous assessment on the most appropriate sanitation facilities for the area's characteristics (including geographical and soil characteristics), to minimize potential risks of pollution</li> <li>▲ Regular water quality monitoring on the body of water where the sanitation facilities effluent is being conveyed</li> <li>▲ Together with the community develop utilization and maintenance procedure for the facilities, where the said procedures will be undertaken by them</li> <li>▲ Educate the community on good sanitation behaviour</li> </ul>	PMU	Environmental Agency and Local Development Planning Board of Pekalongan City, Local community
11	Land and Soil Conservation	Environmental	Soil pollution from hard and/or soft structure construction, including water facilities construction	▲ If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA	Construction company and PMU	Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City

				<p>will be conducted and followed with the corresponding Environmental Management and Monitoring Plan</p> <ul style="list-style-type: none"><li>◆ Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA</li><li>◆ Build temporary sediment and oil trap during structural coastal defence construction process, water and sanitation facilities construction process, as well as ecotourism site development to control influent of oil, and also abrasion and sedimentation</li></ul>		
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12			<p>Soil pollution from sanitation facilities use and construction</p> <ul style="list-style-type: none"> <li>▲ Rigorous assessment on the most appropriate sanitation facilities for the area's characteristics (including geographical and soil characteristics), to minimize potential risks of pollution</li> <li>▲ Regular water quality monitoring on the body of water where the sanitation facilities effluent is being conveyed</li> <li>▲ Together with the community develop utilization and maintenance procedure for the facilities, where the said procedures will be undertaken by them</li> <li>▲ Water tight construction for the sanitation facilities (particularly the waste water management installation) to minimize potential leakage to the soil</li> </ul>	Construction company and PMU	Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City, Local community
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13			Soil pollution due to waste generation from ecotourism activities	<ul style="list-style-type: none"> <li>▲ Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan</li> <li>▲ Coordinate with Cleanliness Agency of Pekalongan City in the waste management activities</li> <li>▲ As a community-based ecotourism, involve the community in the waste management process, including train them to be able to utilize the waste as additional income; either by creating added value to the waste (compost, recycling) from the waste or collect waste that has monetary value (plastic, paper, metal)</li> </ul>	PMU and Ecotourism Implementer	Environmental Agency, Tourism Agency, and Local Development Planning Board of Pekalongan City, Local community
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No	ESP	Type of Impacts	Activity	Impacts Description	Mitigation Measures	PIC	Relevant Stakeholders

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1	<u>Compliance with the Law</u>	<u>Environmental</u>	<u>Coastal embankment</u>	<u>Physical environment disruption from mobilization and construction process</u>	<ul style="list-style-type: none"> <li>• Prepare the relevant Environmental Monitoring and Management Plan for the particular activities to mitigate potential negative impacts from the activities' implementation</li> <li>• PMU will ensure that the monitoring and management plan is being adhered</li> </ul>	<u>Construction company and PMU</u>	<u>NIE, Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City</u>
			<u>Eco-tourism</u>	<u>Physical environment disruption from mobilization and construction process</u>		<u>Tourism Agency, PMU, and local community</u>	
			<u>Reconstruction of individual sanitation facilities</u>	<u>Physical environment disruption from mobilization and reconstruction process</u>		<u>Construction company and PMU</u>	
			<u>Construction of communal sanitation facilities</u>	<u>Physical environment disruption from mobilization and construction process</u>		<u>Construction company and PMU</u>	
2	<u>Access and equity</u>	<u>Social</u>	<u>Implement agreed adaptation action in 8 villages</u>	<u>Social conflict arising from selection of community member that will be the implementer of adaptation actions</u>	<u>• Conduct stakeholders mapping during project planning stage as the basis for determining the appropriate project implementer, allocating fair roles and responsibilities among stakeholders, and selecting the appropriate</u>	<u>PMU</u>	<u>Village Working Group</u>

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				and alternative livelihood at village level	activities site location (including knowledge board location) that could benefit wider community		
			Pilot innovative adaptation measures are implemented in collaboration with other stakeholders and evaluated for future reference	Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood at city level	<ul style="list-style-type: none"> <li>Involving village working groups (which members are community representative) in the selection process</li> <li>Select working group member that could really represent the voice and interest of all layers of community and city stakeholder</li> </ul>	PMU	City Working Group
3	Marginalized and Vulnerable Groups	Social	Implement agreed adaptation action in 8 villages	Social conflict arising from selection of priority activities site and design at village level which could raise envy from other community member that will not directly exposed to the program	<ul style="list-style-type: none"> <li>Conduct social impact assessment and develop the corresponding management plan on potential adaptation actions during prioritization process.</li> <li>Put priority on pro-poor adaptation actions (action that could benefit those who have the least economic adaptive capacity but has a high exposure to climate risk)</li> </ul>	PMU	Village Working Group

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			Pilot innovative adaptation measures are implemented in collaboration with other stakeholders and evaluated for future reference	Social conflict arising from selection of priority activities site and design at city level which could raise envy from other community member that will not directly exposed to the program	<ul style="list-style-type: none"> <li>Adaptation action design (the site location and structural design) will take account of the needs and suitability for elderly, children groups, and disable groups</li> <li>Develop visibility materials that outlines background from the selection and communicate the materials to wider community</li> <li>Involving village working groups (which members are community representative) in the selection process</li> <li>Select working group member that could really represent the voice and interest of all layers of community and city stakeholder</li> </ul>	PMU	City Working Group
4	Protection of Natural Habitats	Environmental	<p>Vennamei shrimp aquaculture pond</p> <p>Bandeng farm pond</p>	<p>Aquaculture preparation process could disrupt the existing natural habitat</p> <p>Bandeng farm pond preparation process could disrupt the existing natural habitat</p>	<ul style="list-style-type: none"> <li>Develop Environmental Management and Monitoring Plan for aquaculture and farm pond operation to prevent adverse impacts to the environment</li> <li>Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on natural habitat</li> </ul>	<p>Local community and PMU</p> <p>Local community and PMU</p>	<p>Cleanliness Agency, Environmental Agency, Public Works Agency, Mairne and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local</p>

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				<u>protection</u> • Ensure that aquaculture farming will only be done in existing aquaculture area or idle aquaculture land so that the activities will not open a new area and disrupt the existing natural habitat		<u>community</u>
		<u>Mangrove restoration</u>	<u>Mobilization and planting process of mangrove belt could potentially impact the surrounding ecosystem</u>	• Develop Environmental Management and Monitoring Plan for mangrove belt • Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on natural habitat protection	<u>Local community and PMU</u>	
		<u>Construction of communal sanitation facilities</u>	<u>Potential impact to the surrounding ecosystem during construction and operational process of floating sanitation facilities</u>	• Develop Environmental Management and Monitoring Plan for sanitation facilities construction and operation • Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on natural habitat protection • Build temporary sediment trap during facilities	<u>Construction company and PMU</u>	

					<a href="#">construction to prevent sedimentation in body of water (for floating design)</a>		
			<a href="#">Coastal embankment</a>	<a href="#">The impact of geotube mobilization and construction process to the existing surrounding ecosystem</a>	<ul style="list-style-type: none"> <li>• <a href="#">Develop Environmental Management and Monitoring Plan for coastal embankment construction and operation</a></li> <li>• <a href="#">Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on natural habitat protection</a></li> <li>• <a href="#">Build temporary sediment trap during embankment construction process as well as ecotourism site development to control abrasion and sedimentation within mangrove ecosystem</a></li> </ul>	<a href="#">Construction company and PMU</a>	

			<u>Eco-tourism</u>	<u>Waste generation and water pollution from ecotourism site preparation, development and operational activities could disrupt natural habitat</u>	<ul style="list-style-type: none"> <li>• <u>Develop Environmental Management and Monitoring Plan for eco-tourism site preparation and construction process</u></li> <li>• <u>Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on natural habitat protection</u></li> <li>• <u>Build temporary sediment trap during ecotourism site development to control abrasion and sedimentation within mangrove ecosystem</u></li> <li>• <u>Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan</u></li> </ul>	<u>Tourism Agency, Local community and PMU</u>	
<u>5</u>	<u>Conservation of Biological Diversity</u>	<u>Environmental</u>	<u>Vennamei shrimp aquaculture pond</u>	<u>Minor ecological disruption from introduction of vennamei shrimp to body of water</u>	<ul style="list-style-type: none"> <li>• <u>The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other</u></li> <li>• <u>Primary assessment to see</u></li> </ul>	<u>Academician, local community and PMU</u>	<u>Marine and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community</u>

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				<p><u>how the vennamei shrimp will survive and interact in a new environment</u></p> <ul style="list-style-type: none"> <li>• <u>Assess the most appropriate mangrove species to be planted</u></li> </ul>		
		<u>Bandeng farm pond</u>	<p><u>Minor ecological disruption from introduction of bandeng to body of water</u></p>	<ul style="list-style-type: none"> <li>• <u>The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other</u></li> <li>• <u>Primary assessment to see how bandeng/nila fish will survive and interact in a new environment</u></li> <li>• <u>Assess the most appropriate mangrove species to be planted</u></li> </ul>	<p><u>Academician, local community and PMU</u></p>	
		<u>Mangrove restoration</u>	<p><u>Minor environmental and ecological disruption from alteration of resource management from introduction of new mangrove species to the environment</u></p>	<ul style="list-style-type: none"> <li>• <u>The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other</u></li> <li>• <u>Primary assessment to see how the new mangrove</u></li> </ul>	<p><u>Academician, local community and PMU</u></p>	

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					<p><u>species will interact in a new environment</u></p> <ul style="list-style-type: none"> <li>• <u>Assess the most appropriate location to introduce the new mangrove species</u></li> </ul>		
			<p><u>Construction of communal sanitation facilities</u></p>	<p><u>Potential impact to the surrounding ecosystem during construction and operational process of floating sanitation facilities</u></p>	<ul style="list-style-type: none"> <li>• <u>Develop Environmental Management and Monitoring Plan for sanitation facilities' construction and operation which outline management plan for potential risk to biological diversity</u></li> <li>• <u>The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other</u></li> <li>• <u>Build temporary sediment trap during constuction process to prevent sedimentation in body of water</u></li> </ul>	<p><u>Construction company and PMU</u></p>	<p><u>Environmental Agency, Tourism Agency, Public Works Agency and Local Development Planning Board of Pekalongan City, Local community</u></p>
			<p><u>Coastal embankment</u></p>	<p><u>Ecosystem disruption from mobilization and construction process of geotube</u></p>	<ul style="list-style-type: none"> <li>• <u>Develop Environmental Management and Monitoring Plan for coastal embankment construction and operation</u></li> <li>• <u>The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation,</u></li> </ul>	<p><u>Construction company and PMU</u></p>	

					<a href="#">including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other</a> <ul style="list-style-type: none"> <li>• <a href="#">Build temporary sediment trap during construction process to control abrasion and sedimentation within mangrove ecosystem</a></li> </ul>		
			<a href="#">Eco-tourism</a>	<a href="#">Waste generation and water pollution from ecotourism site preparation, development and operational activities could disrupt natural habitat</a>	<ul style="list-style-type: none"> <li>• <a href="#">Develop Environmental Management and Monitoring Plan for eco-tourism site development</a></li> <li>• <a href="#">The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other</a></li> <li>• <a href="#">Build temporary sediment trap during ecotourism site development to control abrasion and sedimentation within mangrove ecosystem</a></li> <li>• <a href="#">Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste</a></li> </ul>	<a href="#">Tourism Agency, Local community and PMU</a>	

					<u>management plan</u>		
<u>7</u>	<u>Pollution Prevention and Resource Efficiency</u>	<u>Environmental</u>	<u>Coastal embankment</u>	<u>Water pollution from mobiization and construction process of geotube</u>	<ul style="list-style-type: none"> <li>• <u>Develop Environmental Management and Monitoring Plan for coastal embankment construction and operation</u></li> <li>• <u>Build temporary sediment trap during construction process to control abrasion and sedimentation within mangrove ecosystem</u></li> </ul>	<u>Construction company and PMU</u>	<u>Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City</u>
			<u>Mangrove restoration</u>	<u>Water pollution from mangrove belt planting process</u>	<ul style="list-style-type: none"> <li>• <u>Develop Environmental Management and Monitoring Plan for mangrove belt planting process, including temporary waste management plan</u></li> </ul>	<u>Local community and PMU</u>	<u>Marine and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community</u>

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			<p><u>Vennamei shrimp aquaculture pond</u></p>	<p><u>Water pollution from aquaculture farming practices, including:</u></p> <ul style="list-style-type: none"> <li><u>• Potential for overpopulation within the aquaculture farm</u></li> <li><u>• Sedimentation (increased concentration of organic matter) due to accumulation of shrimp fee in aquaculture farm</u></li> <li><u>• Traditional harvesting method that allows aquaculture water flows into drainage system</u></li> <li><u>• Non-existent aeration that allows sedimentation accumulation at the bottom of the pond</u></li> </ul>	<ul style="list-style-type: none"> <li><u>• Educate the community on environmentally friendly aquaculture farming method/practices, including efficient use of feed and proper harvesting technique</u></li> <li><u>• Equipped the farm with small windmill that allow aeration in the pond</u></li> <li><u>• Create sediment trap that is suitable for the farm</u></li> <li><u>• Develop environmental procedures for aquaculture farming activities, including water and waste management plan</u></li> <li><u>• Regular monitoring of surface water quality inside the farm and in drainage system connected to the farm</u></li> </ul>	<p><u>Local community and PMU</u></p>	<p><u>Marine and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community</u></p>
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			<u>Bandeng farm pond</u>	<p>Water pollution from aquaculture farming practices, including:</p> <ul style="list-style-type: none"> <li>• Potential for overpopulation within the aquaculture farm</li> <li>• Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture farm</li> <li>• Traditional harvesting method that allows aquaculture water flows into drainage system</li> <li>• Non-existent aeration that allows sedimentation accumulation at the bottom of the pond</li> </ul>	<ul style="list-style-type: none"> <li>• Educate the community on environmentally friendly aquaculture farming method/practices, including efficient use of feed and proper harvesting technique</li> <li>• Equipped the farm with small windmill that allow aeration in the pond</li> <li>• Create sediment trap that is suitable for the farm</li> <li>• Develop environmental procedures for aquaculture farming activities, including water and waste management plan</li> <li>• Regular monitoring of surface water quality inside the farm and in drainage system connected to the farm</li> </ul>	<u>Local community and PMU</u>	<u>Marine and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community</u>
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			<u>Eco-tourism</u>	<u>Water pollution due to waste generation and other operational activities in the eco-tourism site</u>	<ul style="list-style-type: none"> <li>• Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan</li> <li>• Coordinate with Cleanliness Agency of Pekalongan City in the waste management activities</li> <li>• As a community-based ecotourism, involve the community in the waste management process, including train them to be able to utilize the waste as additional income; either by creating added value to the waste (compost, recycling) from the waste or collect waste that has monetary value (plastic, paper, metal)</li> </ul>	<u>Local community, Tourism Agency and PMU</u>	<u>Environmental Agency, Cleanliness Agency, and Local Development Planning Board of Pekalongan City, Local community</u>
			<u>Construction of communal and individual sanitation facilities</u>	<u>Ground water or sea water pollution from construction process of the facilities and the effluent of sanitation facilities (during its operational phase)</u>	<ul style="list-style-type: none"> <li>• Rigorous assessment on the most appropriate sanitation facilities for the area's characteristics (including geographical and soil characteristics), to minimize potential risks of pollution</li> <li>• Regular water quality monitoring on the body of water where the sanitation facilities effluent is being conveyed</li> </ul>	<u>Local community and PMU</u>	<u>Environmental Agency and Local Development Planning Board of Pekalongan City, Local community</u>

					<ul style="list-style-type: none"> <li>• Together with the community develop utilization and maintenance procedure for the facilities, where the said procedures will be undertaken by them</li> <li>• Educate the community on good sanitation behaviour</li> </ul>		
11	Land and Soil Conservation	Environmental	Coastal embankment	Soil pollution from mobilization and construction process of geotube	<ul style="list-style-type: none"> <li>• Develop Environmental Management and Monitoring Plan for coastal embankment construction and operation</li> <li>• Build temporary sediment and oil trap during coastal embankment construction process, to control influent of oil, and also abrasion and sedimentation</li> </ul>	Construction company and PMU	Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City
			Eco-tourism	Soil pollution from waste generation and other operational activities in the eco-tourism site	<ul style="list-style-type: none"> <li>• Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan</li> <li>• Build temporary sediment and oil trap during eco-tourism site development process, to control influent of oil, and also abrasion and sedimentation</li> <li>• Coordinate with Cleanliness Agency of Pekalongan City in</li> </ul>	Local community, Tourism Agency and PMU	Environmental Agency, Tourism Agency, and Local Development Planning Board of Pekalongan City, Local community

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					<p><u>the waste management activities</u></p> <ul style="list-style-type: none"> <li>• <u>As a community-based ecotourism, involve the community in the waste management process, including train them to be able to utilize the waste as additional income; either by creating added value to the waste (compost, recycling) from the waste or collect waste that has monetary value (plastic, paper, metal)</u></li> </ul>		
			<p><u>Construction of communal and individual sanitation facilities</u></p>	<p><u>Soil pollution from construction process of the facilities and potential soil contamination from effluent of non-floating sanitation facilities (during its operational phase)</u></p>	<ul style="list-style-type: none"> <li>• <u>Rigorous assessment on the most appropriate sanitation facilities for the area's characteristics (including geographical and soil characteristics), to minimize potential risks of pollution</u></li> <li>• <u>Develop Environmental Management and Monitoring Plan for coastal sanitation facilities' construction process and operational activity</u></li> <li>• <u>Regular water quality monitoring on the body of water where the sanitation facilities effluent is being conveyed</u></li> <li>• <u>Together with the community develop utilization and maintenance procedure for the</u></li> </ul>	<p><u>Construction company and PMU</u></p>	<p><u>Environmental Agency, Public Works Agency, and Local Development Planning Board of Pekalongan City, Local community</u></p>

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					<p>facilities, where the said procedures will be undertaken by them</p> <ul style="list-style-type: none"><li>• Water tight construction for the sanitation facilities (particularly the waste water management installation) to minimize potential leakage to the soil</li></ul>		
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### 1.7.2. Grievance Mechanism Guidance

As part of the program implementation, the PMU will also set up grievance mechanism for the stakeholders involved. This mechanism is needed to ensure the program always in line with AF's ESP that promote environmental and social safeguard and also ensure that it always in line with community's interest and met their expectations. Steps that will be taken for setting up the mechanism are as follow:

- Initial orientation for the PMU will include materials on ESMP and grievance mechanism so that the staff will understand their roles and responsibilities on this matter
- Assign staff/team of staff that comprises of M&E learning officer and village facilitator that will be responsible for receiving and processing the grievance
- Develop procedures for accepting/logged-in grievance, grievance assessment process, providing feedback for the grievance, and monitoring the feedbacks
- Create internal communication procedures for the mechanism
- Communicating the ESMP and grievance mechanism at the beginning of program implementation to the stakeholders

The grievance mechanism procedure that will be set up will follow these following general guidelines:

- ***Logged-in Grievance***

Stakeholder should formally communicate grievance in a written manner, and sent it to the assigned team appointed staff through email, fax or hand-delivered and submit the text to grievance box that will be set up at the PMU office. Once it's being logged, the particular stakeholder will receive receipt (by email, fax or printed receipt; depending on how the stakeholder submit the grievance text) that acknowledging the complaint is being accepted and will be processed. A specific email for grievance submission will be set up in the beginning of the program period. For complainant that hand-deliver the text to PMU office, the assigned team will document their phone number. In doing so, the complainant can be informed by the team when the grievance assessment is completed.

- ***Grievance Assessment***

Once the complaint is logged-in and recorded, an assessment process will be done by the assigned team a specific team by considering the complainants, raised issues and mitigation measures in place. Having considered those aspects, the team will then rate the grievance on a scale 1-5, where rate 1 considered the grievance as low impact/negligible and 5 as critical to be addressed. The next step will be ,rating the grievance and exploring options to address the grievance; assessing whether the measures in place is adequate to address the issue or further actions are need to be taken. Throughout the process, project officer and The team leader will be continually updated and consulted if needed; particularly when the grievance rating is above 3, on the process

- ***Providing and Communicating Feedback***

Once the option is selected, the team will prepare a response for the grievance and communicate the response formally in written text to the complainant by email, fax or inform the complainant by phone.

- **Monitoring Feedback**

To ensure the feedback is well received by the complainant or to maintain in case there will be follow up response, the responsible staff will continually monitor the grievance cases logged-in, its feedback and how it being dealt in practise.

The aforementioned procedures will be communicated to all stakeholders during initial workshops at city and village level, and also continually during any training or workshop conducted by PMU. The printed procedures will be made available at village office and PMU office to ensure stakeholders that are unable to attend the initial workshop understand the grievance mechanism of the program. This step is taken to show that the program tries its best to provide benefit for the wider community by always taking into account their interest and concerns in program implementation. A more detailed grievance mechanism and the responsible staff will be developed at the beginning of program implementation

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## **I.8. MONITORING AND EVALUATION ARRANGEMENT**

### **1.8.1. Monitoring and Evaluation Plan**

Monitoring and evaluation process for the environmental and social impact will be an integral part of program's monitoring and evaluation process. For activities that categorized as need to undergone EIA process in future time, an individual monitoring and evaluation plan will be made accordingly.

Specific aspects to be monitored in relation to the environmental and social impacts are presented in table 4. This table does not provide a specific monitoring and evaluation, but only the general guidance. A more detailed monitoring and evaluation plan for the whole program will be developed during the development process of project implementation plan, in which the content of Table 4 and its detailed derivation will be an inseparable part of the said monitoring and evaluation plan.

**Table 4. Monitoring and Evaluation Plan**

No	ESP	Type of Impacts	Impacts Description	Aspects to be Monitored	Means of Verification	PIC	Relevant Stakeholders
1	Compliance with the Law	Environmental	Environmental impacts from specific adaptation actions, particularly those related to structural interventions	For adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012, a separate monitoring and evaluation plan will be made accordingly after the EIA process	Document that stated whether the activities categorized as need or does not need EIA	Construction company and PMU	NIE, Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City
2	Access and equity	Social	Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood	<ul style="list-style-type: none"> <li>▲ Ensure the selection of appropriate project implementer and site location, fair allocation of roles and responsibilities</li> <li>▲ Ensure that working group member represent the voice and interest of all layers of community and city stakeholder</li> </ul>	<ul style="list-style-type: none"> <li>▲ Record of representation of working group member</li> <li>▲ Minutes of meetings for working groups meetings</li> <li>▲ Documentation of stakeholders mapping process and results</li> </ul>	PMU	Village and City Working Group
3	Marginalized and Vulnerable Groups	Social	Social conflict arising from selection of priority activities site and design which could	<ul style="list-style-type: none"> <li>▲ The development of social impact assessment and management plan</li> <li>▲ Communication of project selection process through visibility materials</li> <li>▲ Ensure that working</li> </ul>	<ul style="list-style-type: none"> <li>▲ Social impact assessment and management plan document</li> <li>▲ Visibility materials and its dissemination records</li> </ul>	PMU	Village and City Working Group

			raise envy from other community member that will not directly exposed to the program	group member represent the voice and interest of all layers of community and city stakeholder	▲ Minutes of meetings for working groups meetings		
4	Protection of Natural Habitats	Environmental	Minor environmental and ecological disruption from hard and soft structure construction or other adaptation activities, for instance: ▲ the impact of construction process of structural barrier (as coastal defence) to the existing surrounding ecosystem ▲ waste generation and water pollution from ecotourism site development and operational	▲ For adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012, a separate monitoring and evaluation plan will be made accordingly after the EIA process ▲ Sediment trap construction to control abrasion and sedimentation within mangrove ecosystem ▲ Availability of environmental procedures that comply with local regulation for ecotourism site, including waste management plan ▲ Aquaculture farm location	▲ Document that stated whether the activities categorized as need or does not need EIA ▲ Environmental procedures (including waste management plan) for ecotourism site ▲ Map of aquaculture farm under the program management ▲ Documentation of sediment trap construction	Construction company and PMU	Cleanliness Agency, Environmental Agency, Public Works Agency, Mairne and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community

			activities ▲aquaculture farming preparation process				
5	Conservation of Biological Diversity	Environmental	Minor environmental and-ecological disruption from hard-and-soft structure construction, for instance geotube and ecotourism site construction process	<ul style="list-style-type: none"> <li>▲For adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012, a separate monitoring and evaluation plan will be made accordingly after the EIA process</li> <li>▲Sediment trap construction to control abrasion and sedimentation within mangrove ecosystem</li> <li>▲Availability of environmental procedures that comply with local regulation for ecotourism site, including waste management plan</li> <li>▲Aquaculture farm location</li> </ul>	<ul style="list-style-type: none"> <li>▲Document that stated whether the activities categorized as need or does not need EIA</li> <li>▲Environmental procedures (including waste management plan) for ecotourism site</li> <li>▲Map of aquaculture farm under the program management</li> <li>▲Documentation of sediment trap construction</li> </ul>	Construction company and PMU	Environmental Agency, Tourism Agency, Public Works Agency and Local Development Planning Board of Pekalongan City, Local community

6			<p>Minor environmental and ecological disruption from alteration of resource management including:</p> <ul style="list-style-type: none"> <li>▲Introduction of new marine/fisheries species to the body of water</li> <li>▲Introduction of new mangrove species to the environment</li> <li>▲Negative impact on mangrove ecosystem due to over-extraction of mangrove honey</li> </ul>	<ul style="list-style-type: none"> <li>▲Ensure that the new marine and fisheries species will fit in the new environment</li> <li>▲Ensure that the community understand on how to properly implement mangrove honey extraction as the alternative livelihood</li> </ul>	<ul style="list-style-type: none"> <li>▲Assessment on potential interaction of new marine species in the new-prepared environment</li> <li>▲Record of workshops on mangrove honey extraction process and the workshop materials</li> </ul>	PMU	Marine and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community
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7	Pollution Prevention and Resource Efficiency	Environmental	Water pollution from hard and/or soft structure construction process	<ul style="list-style-type: none"> <li>▲ For adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012, a separate monitoring and evaluation plan will be made accordingly after the EIA process</li> <li>▲ Sediment and oil trap construction during structural coastal defence construction process, water and sanitation facilities construction process, as well as ecotourism site development to control influent of oil, and also abrasion and sedimentation</li> </ul>	<ul style="list-style-type: none"> <li>▲ Document that stated whether the activities categorized as need or does not need EIA</li> <li>▲ Documentation of sediment and oil trap construction in the needed location</li> </ul>	Construction company and PMU	Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City
8			Water pollution from aquaculture farming practices, including: <ul style="list-style-type: none"> <li>▲ Potential for overpopulation within the aquaculture farm</li> </ul>	<ul style="list-style-type: none"> <li>▲ Application of environmentally friendly aquaculture farming activities</li> <li>▲ Maintain surface water quality in the surrounding area of the farm</li> </ul>	<ul style="list-style-type: none"> <li>▲ Record of workshops on environmentally friendly aquaculture farming practices</li> <li>▲ Water and waste management plan for aquaculture farming</li> <li>▲ Record on regular surface water quality monitoring</li> </ul>	PMU	Marine and Fisheries Agency, Environmental Agency and Local Development Planning Board of Pekalongan City, Local community

			<ul style="list-style-type: none"> <li>▲ Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture farm</li> <li>▲ Traditional harvesting method that allows aquaculture water flows into drainage system</li> <li>▲ Non-existent aeration that allows sedimentation accumulation at the bottom of the pond</li> </ul>				
9			Water pollution due to waste generation from ecotourism activities	Waste management activity in ecotourism site that involves local agency and local community	<ul style="list-style-type: none"> <li>▲ Environmental procedures (including waste management plan) for ecotourism site that also include communication procedure with the Environmental Agency of Pekalongan City</li> <li>▲ Documentation of</li> </ul>	PMU and Ecotourism Implementer	Environmental Agency, Cleanliness Agency, and Local Development Planning Board of Pekalongan City, Local community

					workshops on waste management		
10			Water pollution from the effluent of sanitation facilities	<ul style="list-style-type: none"> <li>Construction and utilization of sanitation facilities that are environmentally friendly</li> <li>Maintain the functionality of the facilities even after the program period is ended</li> </ul>	<ul style="list-style-type: none"> <li>Assessment document on the most appropriate sanitation facilities to be constructed</li> <li>Utilization and maintenance procedures for the sanitation facilities, including the roles and responsibilities</li> <li>Record on regular surface water quality monitoring</li> <li>Documentation of workshops on good sanitation behaviour</li> </ul>	PMU	Environmental Agency and Local Development Planning Board of Pekalongan City, Local community
11	Land and Soil Conservation	Environmental	Soil pollution from hard and/or soft structure construction, including water facilities construction	<ul style="list-style-type: none"> <li>For adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012, a separate monitoring and evaluation plan will be made accordingly after the EIA process</li> <li>Sediment and oil trap construction during structural coastal defence construction process,</li> </ul>	<ul style="list-style-type: none"> <li>Document that stated whether the activities categorized as need or does not need EIA</li> <li>Documentation of sediment and oil trap construction in the needed location</li> </ul>	Construction company and PMU	Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City

				water and sanitation facilities construction process, as well as ecotourism site development to control influent of oil, and also abrasion and sedimentation			
12			Soil pollution from sanitation facilities use and construction	<ul style="list-style-type: none"> <li>▲ Construction and utilization of sanitation facilities that are environmentally friendly</li> <li>▲ Maintain the functionality of the facilities even after the program period is ended</li> </ul>	<ul style="list-style-type: none"> <li>▲ Assessment document on the most appropriate sanitation facilities to be constructed</li> <li>▲ Utilization and maintenance procedures for the sanitation facilities, including the roles and responsibilities</li> <li>▲ Record on regular surface water quality monitoring</li> <li>▲ Record on regular soil quality monitoring</li> </ul>	Construction company and PMU	Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City, Local community
13			Soil pollution due to waste generation from ecotourism activities	Waste management activity in ecotourism site that involves local agency and local community	<ul style="list-style-type: none"> <li>▲ Environmental procedures (including waste management plan) for ecotourism site that also include communication procedure with the Environmental Agency of Pekalongan City</li> </ul>	PMU and Ecotourism Implementer	Environmental Agency, Tourism Agency, and Local Development Planning Board of Pekalongan City, Local community

					▲ Documentation of workshops on waste management		
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<u>No</u>	<u>ESP</u>	<u>Type of Impacts</u>	<u>Activity</u>	<u>Impacts Description</u>	<u>Aspects to be Monitored</u>	<u>Means of Verification</u>	<u>PIC</u>	<u>Relevant Stakeholders</u>
1	<u>Compliance with the Law</u>	<u>Environmental</u>	<u>Coastal embankment</u>	<u>Physical environment disrruption from mobilization and construction process</u>	<u>The availability of Environmental Monitoring and Management Plan document that outline mitigation measures for potential risks associated with the activities</u>	<u>Environmental Monitoring and Management Plan document</u>	<u>Construction company and PMU</u>	<u>NIE, Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City</u>
			<u>Eco-tourism</u>	<u>Physical environment disrruption from mobilization and construction process</u>			<u>Tourism Agency and PMU</u>	
			<u>Reconstruction of individual sanitation facilities</u>	<u>Physical environment disrruption from mobilization and reconstruction process</u>			<u>Construction company and PMU</u>	

			<u>Construction of communal sanitation facilities</u>	<u>Physical environment disrruption from mobilization and construction process</u>			<u>Construction company and PMU</u>	
2	<u>Access and equity</u>	<u>Social</u>	<u>Implement agreed adaptation action in 8 villages</u>	<u>Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood at village level</u>	<ul style="list-style-type: none"> <li>• <u>Ensure the selection of appropriate project implementer and site location, fair allocation of roles and responsibilities</u></li> <li>• <u>Ensure that working group member represent the voice and interest of all layers of community and city stakeholder</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>Record of representation of working group member</u></li> <li>• <u>Minutes of meetings for working groups meetings</u></li> <li>• <u>Documentation of stakeholders mapping process and results</u></li> </ul>	<u>PMU</u>	<u>Village Working Group</u>
			<u>Pilot innovative adaptation measures are implemented in collaboration with other stakeholders and evaluated for future reference</u>	<u>Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood at city level</u>			<u>PMU</u>	<u>City Working Group</u>

3	<u>Marginalized and Vulnerable Groups</u>	<u>Social</u>	<u>Implement agreed adaptation action in 8 villages</u>	<u>Social conflict arising from selection of priority activities site and design at village level which could raise envy from other community member that will not directly exposed to the program</u>	<ul style="list-style-type: none"> <li>• The development of social impact assessment and management plan</li> <li>• Communication of project selection process through visibility materials</li> <li>• Ensure that working group member represent the voice and interest of all layers of community and city stakeholder</li> </ul>	<ul style="list-style-type: none"> <li>• Social impact assessment and management plan document</li> <li>• Visibility materials and its dissemination records</li> <li>• Minutes of meetings for working groups meetings</li> </ul>	<u>PMU</u>	<u>Village Working Group</u>
			<u>Pilot innovative adaptation measures are implemented in collaboration with other stakeholders and evaluated for future reference</u>	<u>Social conflict arising from selection of priority activities site and design at city level which could raise envy from other community member that will not directly exposed to the program</u>			<u>PMU</u>	<u>City Working Group</u>
4	<u>Protection of Natural</u>	<u>Environmental</u>	<u>Vennamei shrimp</u>	<u>Aquaculture preparation</u>	• The availability of	<u>Environmental Monitoring and</u>	<u>Local community and PMU</u>	<u>Cleanliness Agency,</u>

<u>Habitats</u>	<u>aquaculture pond</u>	<u>process could disrupt the existing natural habitat</u>	<u>Environmental Monitoring and Management Plan document that outline mitigation measures for potential risks associated with the activities</u> • <u>Aquaculture farm location</u>	<u>Management Plan document</u>		<u>Environmenta l Agency, Public Works Agency, Mairne and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community</u>
	<u>Bandeng farm pond</u>	<u>Bandeng farm pond preparation process could disrupt the existing natural habitat</u>			<u>Local community and PMU</u>	
	<u>Mangrove restoration</u>	<u>Mobilization and planting process of mangrove belt could potentially impact the surrounding ecosystem</u>	<u>The availability of Environmental Monitoring and Management Plan document that outline mitigation measures for potential risks associated with the activity</u>	<u>Environmental Monitoring and Management Plan document</u>	<u>Local community and PMU</u>	
	<u>Construction of communal sanitation facilities</u>	<u>Potential impact to the surrounding ecosystem during construction and operational process of</u>	• <u>The availability of Environmental Monitoring and Management Plan document that outline mitigation measures for</u>	• <u>Environmental Monitoring and Management Plan document</u> • <u>Documentation of sediment trap</u>	<u>Construction company and PMU</u>	



				<u>floating sanitation facilities</u>	<p><u>potential risks associated with the activity</u></p> <ul style="list-style-type: none"> <li>• <u>Sediment trap construction to control sedimentation in body of water</u></li> </ul>	<u>construction</u>		
			<u>Coastal embankment</u>	<p><u>The impact of geotube mobilization and construction process to the existing surrounding ecosystem</u></p>	<ul style="list-style-type: none"> <li>• <u>The availability of Environmental Monitoring and Management Plan document that outline mitigation measures for potential risks associated with the activity</u></li> <li>• <u>Sediment trap construction to control abrasion and sedimentation within mangrove ecosystem</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>Environmental Monitoring and Management Plan document</u></li> <li>• <u>Documentation of sediment trap construction</u></li> </ul>	<u>Construction company and PMU</u>	

			<a href="#">Eco-tourism</a>	<a href="#">Waste generation and water pollution from ecotourism site preparation, development and operational activities could disrupt natural habitat</a>	<ul style="list-style-type: none"> <li>• <a href="#">Sediment trap construction to control abrasion and sedimentation within mangrove ecosystem</a></li> <li>• <a href="#">Availability of environmental procedures that comply with local regulation for ecotourism site, including waste management plan</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Environmental Monitoring and Management Plan document</a></li> <li>• <a href="#">Documentation of sediment trap construction</a></li> <li>• <a href="#">Environmental procedures (including waste management plan) for ecotourism site</a></li> </ul>	<a href="#">Cleanliness Agency, Local community and PMU</a>	
<a href="#">5</a>	<a href="#">Conservation of Biological Diversity</a>	<a href="#">Environmental</a>	<a href="#">Vennamei shrimp aquaculture pond</a>  <a href="#">Bandeng farm pond</a>	<a href="#">Minor ecological disruption from introduction of vennamei shrimp to body of water</a>  <a href="#">Minor ecological disruption from introduction of bandeng to</a>	<ul style="list-style-type: none"> <li>• <a href="#">Ensure that the new marine and fisheries species will fit in the new environment</a></li> <li>• <a href="#">Ensure that the community understand on how to properly start the aquaculture</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Assessment on potential interaction of new marine species in the new prepared environment</a></li> <li>• <a href="#">Record of workshops with aquaculture material</a></li> </ul>	<a href="#">Academician, working group and PMU</a>  <a href="#">Academician, working group and PMU</a>	<a href="#">Marine and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community</a>

				<u>body of water</u>	<u>activity in a new land</u> <ul style="list-style-type: none"> <li>• The availability of <u>Environmental Monitoring and Management Plan document</u> that outline <u>mitigation measures for potential risks associated with the activities</u></li> <li>• <u>Aquaculture farm location</u></li> </ul>			
			<u>Mangrove restoration</u>	<u>Minor environmental and ecological disruption from alteration of resource management from introduction of new mangrove species to the environment</u>	<ul style="list-style-type: none"> <li>• The availability of <u>Environmental Monitoring and Management Plan document</u> that outline <u>mitigation measures for potential risks associated with the activity</u></li> <li>• <u>Ensure that the proposed mangrove species is appropriate for the location</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>Environmental Monitoring and Management Plan document</u></li> <li>• <u>Assessment on appropriateness of the proposed mangrove species for mangrove belt planting activity in the proposed location</u></li> </ul>	<u>Academician, working group and PMU</u>	

			<a href="#">Construction of communal sanitation facilities</a>	<a href="#">Potential impact to the surrounding ecosystem during construction and operational process of floating sanitation facilities</a>	<ul style="list-style-type: none"> <li>• The availability of <a href="#">Environmental Monitoring and Management Plan document</a> that outline <a href="#">mitigation measures for potential risks associated with the activity</a></li> <li>• <a href="#">Sediment trap construction to control sedimentation in body of water</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Environmental Monitoring and Management Plan document</a></li> <li>• <a href="#">Documentation of sediment trap construction</a></li> </ul>	<a href="#">Construction company and PMU</a>	<a href="#">Environmental Agency, Tourism Agency, Public Works Agency and Local Development Planning Board of Pekalongan City, Local community</a>
			<a href="#">Coastal embankment</a>	<a href="#">Ecosystem disruption from mobilization and construction process of geotube</a>	<ul style="list-style-type: none"> <li>• The availability of <a href="#">Environmental Monitoring and Management Plan document</a> that outline <a href="#">mitigation measures for potential risks associated with the activity</a></li> <li>• <a href="#">Sediment trap construction to</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Environmental Monitoring and Management Plan document</a></li> <li>• <a href="#">Documentation of sediment trap construction</a></li> </ul>	<a href="#">Construction company and PMU</a>	

					<a href="#">control abrasion and sedimentation within mangrove ecosystem</a>			
			<a href="#">Eco-tourism</a>	<a href="#">Waste generation and water pollution from ecotourism site preparation, development and operational activities could disrupt natural habitat</a>	<ul style="list-style-type: none"> <li>• <a href="#">Sediment trap construction to control abrasion and sedimentation within mangrove ecosystem</a></li> <li>• <a href="#">Availability of environmental procedures that comply with local regulation for ecotourism site, including waste management plan</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Environmental Monitoring and Management Plan document</a></li> <li>• <a href="#">Documentation of sediment trap construction</a></li> <li>• <a href="#">Environmental procedures (including waste management plan) for ecotourism site</a></li> </ul>	<a href="#">Cleanliness Agency, Local community and PMU</a>	
<a href="#">Z</a>	<a href="#">Pollution Prevention and Resource Efficiency</a>	<a href="#">Environmental</a>	<a href="#">Coastal embankment</a>	<a href="#">Water pollution from mobiiiization and construction process of geotube</a>	<ul style="list-style-type: none"> <li>• <a href="#">The availability of Environmental Monitoring and Management Plan document that outline mitigation</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Environmental Monitoring and Management Plan document</a></li> <li>• <a href="#">Documentation of sediment</a></li> </ul>	<a href="#">Construction company and PMU</a>	<a href="#">Environmental Agency, Public Works Agency and Local Development Planning Board of</a>

					<a href="#">measures for potential risks associated with the activity</a> <ul style="list-style-type: none"> <li>• <a href="#">Sediment and oil trap construction to control abrasion and sedimentation within mangrove ecosystem</a></li> </ul>	<a href="#">and oil trap construction</a>		<a href="#">Pekalongan City</a>
			<a href="#">Mangrove restoration</a>	<a href="#">Water pollution from mangrove belt planting process</a>	<ul style="list-style-type: none"> <li>• <a href="#">The availability of Environmental Monitoring and Management Plan document that outline mitigation measures for potential risks associated with the activity</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Environmental Monitoring and Management Plan document with temporary waste management plan (during planting process)</a></li> </ul>	<a href="#">PMU</a>	<a href="#">Marine and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community</a>
			<a href="#">Vennamei shrimp aquaculture pond</a>	<a href="#">Water pollution from aquaculture farming practices, including:</a> <ul style="list-style-type: none"> <li>• <a href="#">Potential for overpopulation within the</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Application of environmentally friendly aquaculture farming activities</a></li> <li>• <a href="#">Maintain surface water quality in the</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Record of workshops on environmentally friendly aquaculture farming practices</a></li> <li>• <a href="#">Water and waste</a></li> </ul>	<a href="#">Local community and PMU</a>	<a href="#">Marine and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local</a>

				<a href="#">aquaculture farm</a> <ul style="list-style-type: none"> <li>• <a href="#">Sedimentation (increased concentration of organic matter) due to accumulation of shrimp feces in aquaculture farm</a></li> <li>• <a href="#">Traditional harvesting method that allows aquaculture water flows into drainage system</a></li> <li>• <a href="#">Non-existent aeration that allows sedimentation accumulation at the bottom of the pond</a></li> </ul>	<a href="#">surrounding area of the farm</a>	<a href="#">management plan for aquaculture farming</a> <ul style="list-style-type: none"> <li>• <a href="#">Record on regular surface water quality monitoring</a></li> <li>• <a href="#">Documentatoin of sediment trap that is suitable for the farm/pond</a></li> </ul>	<a href="#">community</a>
			<a href="#">Bandeng farm pond</a>	<a href="#">Water pollution from aquaculture farming practices, including:</a> <ul style="list-style-type: none"> <li>• <a href="#">Potential for</a></li> </ul>		<a href="#">Local community and PMU</a>	<a href="#">Marine and Fisheries Agency and Local Development Planning Board of</a>

				<p><u>overpopulation within the aquaculture farm</u></p> <ul style="list-style-type: none"> <li>• <u>Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture farm</u></li> <li>• <u>Traditional harvesting method that allows aquaculture water flows into drainage system</u></li> <li>• <u>Non-existent aeration that allows sedimentation accumulation at the bottom of the pond</u></li> </ul>				<p><u>Pekalongan City, Local community</u></p>
			<p><u>Eco-tourism</u></p>	<p><u>Water pollution due to waste generation and other</u></p>	<p>• <u>The availability of Environmental Monitoring and Management</u></p>	<p>• <u>Environmental Monitoring and Management Plan document</u></p>	<p><u>Cleanliness Agency and PMU</u></p>	<p><u>Environmental Agency, Cleanliness Agency, and Local</u></p>



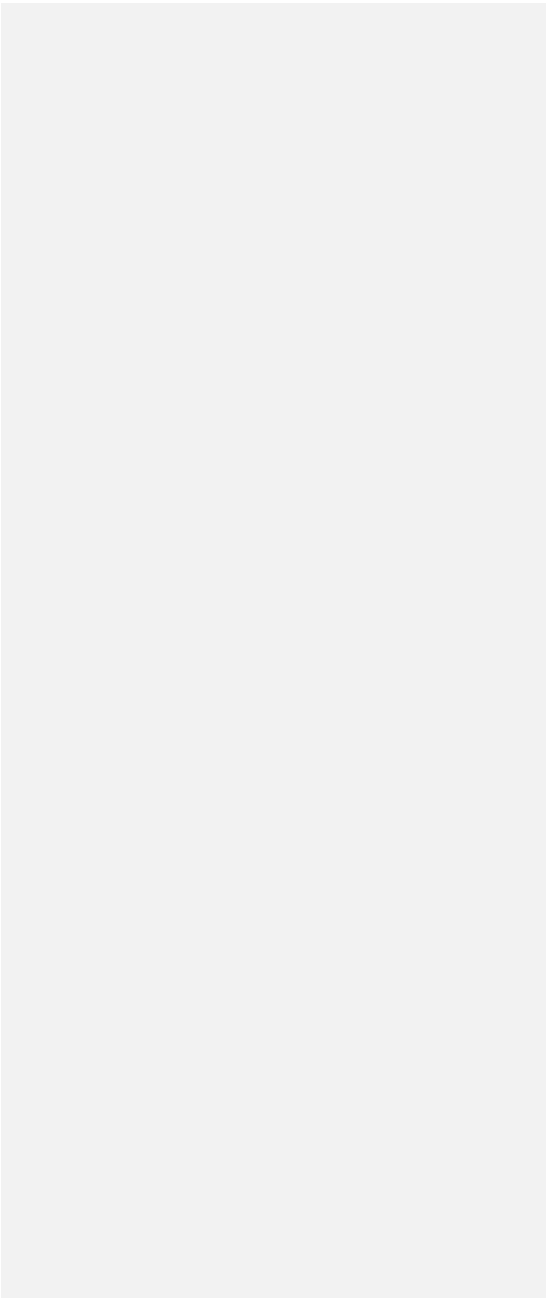
				<u>operational activities in the eco-tourism site</u>	<u>Plan document that outline mitigation measures for potential risks associated with the activity as well as its connection with local government waste management system</u> <ul style="list-style-type: none"> <li>• <u>Sediment and oil trap construction to control abrasion and sedimentation within mangrove ecosystem</u></li> <li>• <u>Waste management activity in ecotourism site that involves local agency and local community</u></li> </ul>	<ul style="list-style-type: none"> <li>• <u>Documentation of sediment and oil trap construction</u></li> <li>• <u>Environmental procedures (including waste management plan) for ecotourism site that also include communication procedure with the Environmental Agency of Pekalongan City</u></li> <li>• <u>Documentation of workshops on waste management</u></li> </ul>		<u>Development Planning Board of Pekalongan City, Local community</u>
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			<a href="#">Construction of communal and individual sanitation facilities</a>	<a href="#">Ground water or sea water pollution from construction process of the facilities and the effluent of sanitation facilities (during its operational phase)</a>	<ul style="list-style-type: none"> <li>• The availability of Environmental Monitoring and Management Plan document that outline mitigation measures for potential risks associated with the activity</li> <li>• Construction and utilization of sanitation facilities that are environmentally friendly</li> <li>• Maintain the functionality of the facilities even after the program period is ended</li> <li>• Ensure that the facilities' effluent is not polluting the body of water</li> </ul>	<ul style="list-style-type: none"> <li>• Assessment document on the most appropriate sanitation facilities to be constructed</li> <li>• Utilization and maintenance procedures for the sanitation facilities, including the roles and responsibilities</li> <li>• Record on regular surfacewater quality monitoring</li> <li>• Documentation of workshops on good sanitation behaviour</li> </ul>	<a href="#">Construction company, Local community and PMU</a>	<a href="#">Environmental Agency and Local Development Planning Board of Pekalongan City, Local community</a>
<a href="#">11</a>	<a href="#">Land and Soil Conservation</a>	<a href="#">Environmental</a>	<a href="#">Coastal embankment</a>	<a href="#">Soil pollution from mobilization and</a>	<ul style="list-style-type: none"> <li>• The availability of Environmental Monitoring and</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental Monitoring and Management</li> </ul>	<a href="#">Construction company and PMU</a>	<a href="#">Environmental Agency, Public Works Agency and</a>






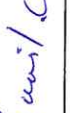



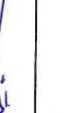
				<a href="#">construction process of geotube</a>	<a href="#">Management Plan document that outline mitigation measures for potential risks associated with the activity</a> • <a href="#">Sediment and oilt trap construction during structural coastal embankment construction process to control influent of oil, and also abrasion and sedimentation</a>	<a href="#">Plan document</a> • <a href="#">Documentation of sediment and oilt trap construction</a>		<a href="#">Local Development Planning Board of Pekalongan City</a>
			<a href="#">Eco-tourism</a>	<a href="#">Soil pollution from waste generation and other operational activities in the eco-tourism site</a>	• <a href="#">The availability of Environmental Monitoring and Management Plan document that outline mitigation measures for potential risks associated with the activity as well as its</a>	• <a href="#">Environmental Monitoring and Management Plan document</a> • <a href="#">Environmental procedures (including waste management plan) for ecotourism</a>	<a href="#">Cleanliness Agency and PMU</a>	<a href="#">Environmenta l Agency, Tourism Agency, and Local Development Planning Board of Pekalongan City, Local community</a>

					<a href="#">connection with local government waste management system</a> <ul style="list-style-type: none"> <li>• <a href="#">Waste management activity in ecotourism site that involves local agency and local community</a></li> </ul>	<a href="#">site that also include communication procedure with the Environmental Agency of Pekalongan City</a> <ul style="list-style-type: none"> <li>• <a href="#">Documentation of workshops on waste management</a></li> </ul>		
			<a href="#">Construction of communal and individual sanitation facilities</a>	<a href="#">Soil pollution from construction process of the facilities and potential soil contamination from effluent of non-floating sanitation facilities (during its operational phase)</a>	<ul style="list-style-type: none"> <li>• <a href="#">The availability of Environmental Monitoring and Management Plan document that outline mitigation measures for potential risks associated with the activity</a></li> <li>• <a href="#">Construction and utilization of sanitation facilities that are environmentally friendly</a></li> <li>• <a href="#">Maintain the</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Assessment document on the most appropriate sanitation facilities to be constructed</a></li> <li>• <a href="#">Utilization and maintenance procedures for the sanitation facilities, including the roles and responsibilities</a></li> <li>• <a href="#">Record on regular soil quality monitoring</a></li> </ul>	<a href="#">Construction company, Local community and PMU</a>	<a href="#">Environmental Agency, Public Works Agency, and Local Development Planning Board of Pekalongan City, Local community</a>











					<u>functionality of the facilities even after the program period is ended</u> <ul style="list-style-type: none"><li>• <u>Ensure the constructed facilities are watertight</u></li></ul>			
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**Nama Event** : Focus Group Discussion dalam rangka Penyusunan Proposal Af  
**Tempat/Lokasi** : Aula Bappeda Pekalongan  
**Tanggal, Jam** : 21 Maret 2017

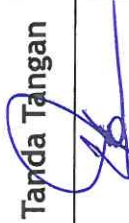





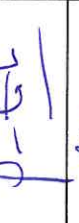



No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
1	D Rasti Arpani	Dinperpa	08157618729	deera_2802@yahoo.co.id	
2	Musafa Lani	RTA	082170121005		
3	DOTO	Kec. Pab. Timur	08586919545		
4	Sunaryo	UP2NU/M2K	085642871736		
5	Sebastian Hadi	REL. PAB. B. B. B.	081542236989		
6	Eddy Satrio	Kand. Pab. B.	081566771712	sepiawana@yahoo.co.id	
7	Juriyah	Kel Pkk.	08156936834		
8	Ketno Purwan	Bappeda	0816654567		
9	Endang Hadi	Rec. Service	08132706066		
10	Amir Hancu	MAPAN	08584229800		

Nama Event : \_\_\_\_\_  
 Tempat/Lokasi : \_\_\_\_\_  
 Tanggal, Jam : \_\_\_\_\_

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
11.	M. Nasir	kec Bang	085642716157	muchammadin@gmail.com	
12.	Flokiyando	ke Utoro			
13.	Summu	Konkot Kotaker	08122794323	summu.konkot@pdco.co.id	
14.	M. Afzal	Kor. Tirta	08564080585		
15.	Jubiyanto	BPBA	085869269234	bulodien.anggoro2610@gmail.com	
16.	Dion Anggoro	"	085640734984		
17.	AGUS DHARMAN	Komunitas hujar	0858169868211		
18.	Teguh Winarno	BPHV	081548154529	teguhwinarno@yahoo.com	
19.	Pipin. Arupin	"	085842111881		
20.	KAMAL HADI	TANU MATAMUR	085738137862		



Nama Event : \_\_\_\_\_  
 Tempat/Lokasi : \_\_\_\_\_  
 Tanggal, Jam : \_\_\_\_\_

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
21.	Maman. S.	Dar Buk. Para.	08164255424		
22.	β-EDWARD	Bappeln	081548132060		
23.	Subandi	P. Krolin	088869217017		
24.	Ervan. K.	DCH	08157928235		
25.	Wahyuni S	Bappeln	085865783182		
26.	Budi Ch	Kemitraan	081212420988		
27.	THAS	PPH	0856411805		
28.	SUTOTO	Bappeln	085225168045	subto251680045@gmail.com	
29.	EDYH	Ka. Sen			
30	Tri Ruj. Nihil	Bappeln	085743266218.	astuti.azalia@gmail.com	





**kemiraan**

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Nama Event : \_\_\_\_\_

Tempat/Lokasi : \_\_\_\_\_

Tanggal, Jam : \_\_\_\_\_

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
31.	Xunidar	kemiraan	083240546939	xunidar@kemiraan.or.id	-Xunidar
32.	Juana	Uu - P. Cita	08570280929		Juana
33.	Slameti	Kul. Kupa	081563871044		Slameti
34.	SLAMET SAMUDI	DPMKPA	085878615945	slametsamudi@gmail.com	Slameti
35.	MAR-YOTO	Kes. Bandenga	085701321007		MAR-YOTO
36.	Anita Heru k	Bappeba	08156932403	anita-heru@btfmail.com	Anita Heru k
37.	Muchamad Riqol	Bappeba	08570122257		Muchamad Riqol
38.	Abdianayn S. Aji	Kemiraan			Abdianayn S. Aji
39.	6 Vira 12	---			6 Vira 12
40.	Vista	Bappeba	085706322957		Vista



partnership

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Field Documentation

Documentation	Caption
	Mangrove Restoration Eco-tourism in Pekalongan
	
	





Consultative meeting  
with Regional  
Planning Agency  
(BAPPEDA) of  
Pekalongan City



Area Plan Map of  
Pekalongan City

	<p>Focus Group Discussion in Pekalongan City</p>
	<p>Consultative meeting with City Manager of Pekalongan City</p>
	<p>Consultative meeting with Public Work Agency of Pekalongan City</p>



Discussion with Farmer's Group Leader "Tani Makmur" in Bandengan Village



Inside Farmer's Group Leader house in Bandengan Village



Seaweed





Discussion with Head of Tirto Village and Tirto Village community





Discussion with  
BAPPEDA Semarang  
Province



Discussion with Head  
of Environment  
Agency in Semarang  
Province



Consultative meeting  
with Former Mayor of  
Pekalongan



	<p>Consultative meeting with BINTARI</p>
	<p><b>Inundated Settlement Area in Bandengan Village (before Rainfall)</b></p>
	















Surrounding Degayu  
Village



	<p>Coastal embankment with sediment/sand trap system</p>
	<p>Stakeholders consultative meeting on AF proposal preparation</p>
	<p>Stakeholders consultative meeting on AF proposal preparation</p>

	<p>Focus group discussion about mainstreaming gender on AF project proposal</p>
	<p>Consultative meeting with women groups</p>

Nama Event : F&D - Penyusunan Proposal AF  
 Tempat/Lokasi : Pesona Hotel Pekanbaru  
 Tanggal, Jam : 20 Juli 2018

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
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3.	Prawita	DAU SDA PAPU PKN.	0819 017 80514	prwita.1980@gmail.com	
4.	Abdul Hainal	IAIN Pekanbaru	085225968588	hainalulandana@yahoo.co.id	
5.	Wahyuto	Kec. Benda	085701321007	-	
6.	Chapliq	Dipin	085813361469	-	
7.	Adetya Rahmi	Kemitraan	085722978688	adetya.rahmi@kemitraan.or.id	
8.	Yuni	As 2	081903660116	yuniand480@gmail.com	
9.	agus	Pangang BARU			
10.	CAREKI W	BARBERA	0858690879		





**kemitraan**

partnership

Nama Event : #10 - Penyusunan proposal AF  
Tempat/Lokasi : Pesona Hotel Pekanbaru  
Tanggal, Jam : 20 / 7 / 2018

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda-Tangan
11.	Pi Samsu	Ud-P. Wira	081-742 880925		
12	Sekasranu Hidar	Alk. Pangg Bina	081542 236999		
13	Torsano	PIM	085826123306		
14	Amet Fauzan	16 Mahasiswa Koda	085 84887 468		
15.	Dian Aniestyowati	Dit. Adaptasi Perub. HkH	081210287374	dianhidayat@gmail.com	
16	Triyo Sulsto	Guru Besar	085647644546	hitohtato@gmail.com	
17.	Risfawati	Universitas Pekanbaru	089933536070	himbawati_985@yahoo.co.id	
18.	Prasid	BBWS PD	085 742 407 509		
19.	Hambra S	PT. VIKONA KANSA FSD	0858 9220 5072		
20.	A. Baldoni.	PT Hx.	081353557500		



**kemitraan**

partnership

Nama Event : Penyusunan Proposal AF.  
Tempat/Lokasi : Pesona Hotel  
Tanggal, Jam : 20/7/2018

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
21	WISNU GIBOLIT	BAPPEN	085741322951	muhamsingdo@yahoo.com	
22	Sunardi	Lurah	085741033350		
23	Amey Hana		085842229800		
24	TUBAGUS MS	Bag. Humer	085640137031		
25	Kusnandar Bungin	Karang Taruna	085741887275		
26	gpi Purnawandura	Sehela	08156563418		
27	D. Wahyu Jatmiko	PASDA TARA JATENG	081901112795	jatmikopbp@gmail.com	
28	Titi Puji Astuti	Bappene	085743266218	astuti.astuti@gmail.com	
29	SUTOTO	Battul	085229168045	lutoto25@yahoo.com	
30	Ayesta M	PK, AS, UI	0816650547		





**kemitraan**

partnership

Nama Event : Penyusunan Proposal AF  
Tempat/Lokasi : Pesona Hotel  
Tanggal, Jam : 20/7/18

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
1.	Zudal S.S.	Parbudipora	085641927178	zudal.s.s@yaho.co.id	
2.	Juliana Fachmawati	BINTARI - SMT	085740925601	julianafachmawati@gmail.com	
3.	Anita Heru K.	Bappeda	08156932403	anitaheru@hotmail.com	
4.	B. EDWARD	Angpda	081548132060	labobondw@yahoo.co.id	
5.	Abinawya S. Aji	Kemikraan			
6.	M Rifin	Kec. PKK	081994186577		
7.	Nur Imami yea	Kel. TUBU	085641724263		
8.	Andreas P. I	Bagpda...	08528334020		
9.	Eater Agung	BAUS Pemali Juana	082242329075		
10.	Murdijanto	Kel. Krapyak	085640307604		

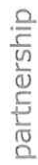


**kemitraan**

partnership

Nama Event : PSD -  
Tempat/Lokasi : Resona Hotel  
Tanggal, Jam : 20/7/18

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
1.	KADI PRANGGONO	UKUAL	085863586861	hadi.pranggono@gmail.com	
2	Zaenal Arifin	BREWSPJ	60246722290		
3	Eddy Setiawan	Ko. kard. peng.	08156677142		
4	Danaroh	Pelabuhan	080991709742		
5	Nu Slamet	Daya pda	08585323911	ns.nurloans@gmail.com	
6	Rodjansali	Kemitran	081381714837		
7	Abriz Usakulhu	BREWSPJ	081 326 792 022		
8	Khoirine	PPN Pelabuhan	085 6000 30001	ppnpelabuhan@gmail.com	
9	Budi Ch		081222420908	budi.christh@gmail.com	
10	Devi Wahyu Hastuti	DKP	081391791731	dunhastuti@gmail.com	













Tanggal, Jam

• 20/Jul / 2013











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Nama Event : FEO - Penyusunan Proposal Adaptation Fund.  
 Tempat/Lokasi : Ruang Kalitaga, Setda, Pekalongan  
 Tanggal, Jam : 08.30 - Selesai

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
1	Abimanyu S. Aji	Kemitraan			
2	Bechi Ch.	—			
3	Khair Panggi	—			
4	Dewi Rintan	—			
5	M. Ichwan H	—			
6	Nur Slamet	Bappeda Kota Pekalongan	085853239111	n.s.nurslameted@gmail.com	
7	Indarto.	AKM.	08156912035	indarto12@gmail.com	
8	Lasdani Sigitu	Parbupor	081548060488	muretegit6@gmail.com	
9	Sugeng	BPPD	081215445999	sugeng046@gmail.com	
10	Erwan R.	DLH	08157920235	erwan_r16@yahoo.com	

Nama Event : FGD - Penuguhan proposal AF  
 Tempat/Lokasi : Ruang Kalisasa, Setda, Pekalongan  
 Tanggal, Jam : 08.30 - Selesai











No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
11.	Eko Bud R	Unilever	085641863143	hosan145173@gmail.com	
12	Justian D	Pusmanu	081329467378	gurnainingsil@gmail.com	
13	ISAHAJAH	Dmpertan	08574249383	asainbaw@yahoo.com	
14	Si Syamirgil	bel Bandung	085642707774	nuning90@yahoo.co.id	
15	Zulita Nuri N	PKP	085869456386	diarwananti@gmail.com	
16	Supriyo	Dinkcapil	081282440100	supriyomangulu@gmail.com	
17	Tribo Sufit	Sian Nugel	085647644776	himbatt@gmail.com	
18	Tygnawari	bel Pante	085742880125		
19	SARWONO BUDI	KANTOR PARTAM			
20.	Cayekhi W	Beppera	085869028729	cayekhiwidjod@yahoo.com	

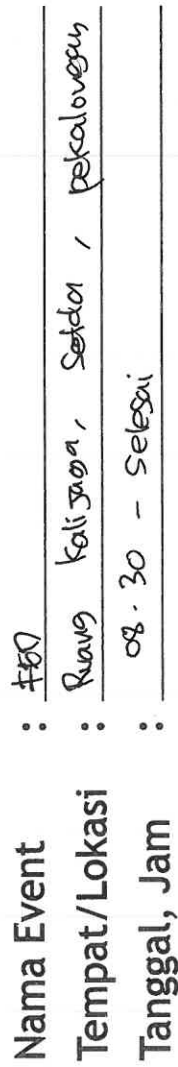
Nama Event : #50  
Tempat/Lokasi : Ruwag Kalisaga, Setda, Peralangan  
Tanggal, Jam : 08.30 - Selesai

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
21	Abdul Cholile	Kel. Dadukuh kerta	(0285) 923019	Petabuhan kerta@gmail.com	
22	Ang Hana	WA PAMPAKA	035 8422 29800		
23	Baw Jauin	Eder Eder micojula			
24	Hadis Sarong	Kel. Tifa	085 48803329		
25	Puri Murossalah	Blk. keco-utara			
26	Diab	Bappeda	085741581952		
27	Anast Riyanto	RTP			
28	Herlina f	Pang. Bawa	085 74252557		
29	M. L. Yul P	Bn ppa. l.			
30	Gasio	Bappada			



Nama Event : PEO - Pengisian Proposal Adaptation Fund  
 Tempat/Lokasi : Ruang Kalijaga, Setda, Dekalungan  
 Tanggal, Jam : 08.30 - Selesai

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
31.	Enlisilayanto	PTP			
32.	Angga	DPMPA	0816425288		
33.	Anita Manjari	BARDEA			
34.	Intanwenu	HUSI	081542363779		
35.	DEYI. ANGGORA	BARDEA	085875888884		
36.	Egy Purnawo	STIE Muspel	085727767077		
37.	Guanda	Degayn			
38.	Rakita Siyoso	Kel PKU	085870225859		
39.	Bucarano	Kel. Pke. Utra			
40.	Pansi	BARDEA			

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